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EDITORIAL.

THE WASSERMANN SYPHILIS REACTION.

It is a curious fact that many disputes in medicine are decided in a fashion that might have been prophesied if the disputants had always taken a more or less detached position. In many of the questions that have worried the medical mind the problem at issue is lost sight of in the maze of personal feelings that have been aroused. If it were possible to take the attitude of one who is patiently waiting until available data are at hand there would be little need of the heart-breaking waste of argumentative hours in medical meetings. For many years there has been waging a battle between those who believed that syphilis was the chief cause of tabes and dementia paralytica and those who did not believe so. The arguments for the positive position were based upon the fact that in a large percentage of patients with these diseases there was an unmistakable history of previous syphilis much larger than would be found in an equal number of individuals sick with other diseases of the nervous system. The opponents of this idea were opposed to its acceptance on the ground, chiefly, of the unreliability of such statistical data, and on the fact, so they asserted, that a syphilitic history could or could not be obtained according as one went about it. It is obvious of course that the dispute depended absolutely on two things, first on the weakness of the statistical method in medicine, and secondly, on the fact that there was no way that could be used to determine whether a patient suffering from these diseases had had syphilis or not, except upon his own statement. A small percentage of cases did as a matter of fact show traces of late syphilis in a clinical way, but these formed too small a part to be of any statistical importance.

Whatever the imperfections of the method were the almost universal conclusion was that syphilis was the most important aetiological factor in the two diseases. The mass of experience made belief in this conclusion almost irresistible. The question remained in this unproven state awaiting some further discovery which might attack the weaker part of the argument or bring further evidence to its support. The final solution now seems at hand. The weakness of the attempted solution was simply the inability to decide in a given case from objective examination if an individual who had one of the diseases had also had previously a syphilitic infection. Wassermann and his pupils have found that there is in the blood serum, and more particularly in the cerebro-spinal fluid of patients who have previously had syphilis, a specific reaction depending chiefly upon the presence of syphilitic anti-

bodies in the fluid.' The technique is somewhat complicated as yet, but not too much for ordinary laboratory methods. The results obtained so far have led to surprising results in the matter of supporting the conclusions that have been arrived at by the statistical methods previously in vogue. It seems beyond question that Dementia Paralytica depends for its development upon a previous attack of syphilis. This seems to be equally true of tabes. The absolute proof of these two suppositions now simply rests upon a large series of observations which are no doubt at the present time being made. The suggestive thing about this discovery is that in the face of a problem in medicine in which some part of the method of proof is weak, it is far better to wait until the method itself is strengthened by new discoveries than to engage in discussion to no definite purpose. In the meantime the collection of careful statistics upon the point at issue will save much heartburning, and incidentally much time.

DIFFICULTIES IN ANTIMALARIAL TREATMENT.

The clinician who indulges freely in polypharmaceutical habits and who has received many knocks from various scientists will receive much comfort from the researches of Ehrlich on the trypanosomes. This pharmacologist ascertained that these protozoa become very resistant to various trypanocidal substances—trypanred, atoxyl, parafuchsin, etc., after administering these drugs to the host for some time (Harbin Lectures, *Lancet*, Aug. 10). Another striking feature is that this immunity is transmitted to the offspring.

The only remedy we possess to counteract this immunity is to give several of the trypanocides at the same time; only in this way can we hope to destroy all the trypanosomes in the infected animal. To quote his own words: "One is, however, justified in hoping that it might be possible to cure the disease without endangering life by the simultaneous administration of three, four or five substances, chosen in such a manner that their action is concentrated on the parasites, while in the organs of the vertebrate host they are distributed over several different organs."

It is only natural that we compare these researches with the clinical experience that has been obtained in the treatment of malaria. In certain parts of the country the plasmodia are very resistant to the effects of quinine. This seems especially true in those regions where this drug has been given to many infected persons for several generations. It is often found necessary to give several drugs at the same time to destroy the hæmancebæ. Among these drugs mercury holds a high place, and it is curious that Ehrlich found that this substance has also trypanocidal powers.

Another popular adjuvant is arsenic, and for many years it has been the favorite drug in those cases in which quinine failed, that is in those in which the plasmodia had become resistant to the cinchona alkaloid.

We must admit then that polypharmacy is often very helpful in malarial diseases. Sometimes it is necessary to give calomel, quinine and arsenic at the same time in order to overcome the resistance of the protozoa.

Methylene blue must sometimes be given with quinine, and other dyes may be substituted in the future. The beneficial effect of such an irrational mixture as Warburg's tincture may receive an explanation under this rule. The several antiperiodics which it contains overwhelm the protozoa while its toxic action is so distributed as to be harmless to the host.

TRAGI-COMEDIES IN THE PRACTICE OF MEDICINE.

Modern intellectualism seems as far removed today from the practice of medicine in this country as it was some twenty years ago, when it was not only frowned down by our leading and "prominent" physicians as a thing too purile to contemplate, but was flouted as a decadent insistence, foolishly thrust upon a body of superior men so as to demean them to the low level of the masters of the exact sciences, the literateurs and the artists. This aloofness from a movement which has affected the many skeins which compose the tangle of modern life, has resulted in the retention and toleration of a modern counterpart of the medical philosopher of the past, who was wont to play a decidedly foolish part in the sick-room. What that part was the history of medicine has often recorded, and though the methods have been held up to scorn by the few critics whose prowess was great enough to attack so formidable a body of men as were the physicians of that period, the methods, unfortunately, have persisted to this day and the exhibitions of smiling optimism and conversational trivialities in the presence of grave disease have the same stamp of ludicrousness that they had in the good old days.

In criticising this attitude to the suffering patient, we are not desiring a return of "the alarmist physician" but are merely advancing a plea for honesty that shall partake, to a modest extent, of the seriousness of modern intellectualism. Just why the practice of medicine should today be removed from all the currents of thought that are eddying around us, is not clear to us unless explained on the ground that our exuberant and ubiquitous humor must manifest itself in the sick-room, and that we are too indifferent to modernism to give up, even in the presence of the dying, the trite and serio-comic bits of conversation which have come to us as a tradition from probably the most provincial doctors the world has ever seen.

Where this state of things exists one need not be a clever or an astute critic to note that an opposition party will spring up. Now this party consists of men who are so extreme in their views, so serious in their desire to imitate our German confreres, so intent upon occupying the small, high stool which to them is a throne whence the microscope is mastered, that all thought of the psychology of the sick-room is lost sight of. The natural opposition of the patient to a preparation of certain drugs whose vehicle is far from palatable, receives scant attention; in fact, preferences, predilections, idiosyncracies, the many and manifold manifestations of mental distress on the part of the sufferer, are combated, in the "laboratory physician's" mind, by the deep knowledge

his microscope yields him when undiscovered countries are made clear to his ever active but limited mental horizon. The moment of a case with this sort of physician is in ratio to what the microscope whispers to him, and were he to firmly believe with Shakespeare that "the sovereign'st thing on earth was parmaceti for an inward bruise," he would console himself in prescribing so ancient a remedy by the scientific truths which emanate from his favorite instrument.

It can readily be seen that when the physician who still lives in the tradition that spells stereotyped conversational trivialities and irrepressible humor, and the grave exponent of the laboratory meet in the sick-room, tragi-comedies will surely be enacted. There is no common ground for them to meet upon, for they represent the antipodes in the practice of medicine. And though "the laboratory physician" may berate the general practitioner for his lack of the modern scientific spirit, due to ignorance of "the latest in medicine," and the general practitioner may make light of the laboratory physician's serious intent as regards his work in his scientific sanctum, they both fail to grasp the import of modern intellectualism. They both ignore the psychology of the sick and the depressed, the one by acting a part which dramatists from Moliere down to the present time have ridiculed for the public's edification, the other by overlooking everything that might conduce to the patient's comfort, with eyes forever fastened on "the magnifier of small things."

Meantime, the patient may be tossing about in pain, waiting for "bread" and getting a "stone."

To juxtapose two elements in the sick room that are meticulous of each other is a mistake, for the entente cordiale, if it is ever effected, requires too rare a diplomacy. Sometimes it never takes place as was recently instanced in one of our large towns, where a consultation was finally decided upon several hours after the patient's death.

PRAGMATISM.

A new word, or rather a new application of an old word, has just now become the fashion in the world of philosophy. The pages of its journals are studded with the new term and papers upon its elucidation are widely read and written. This new-old term is Pragmatism. Since the Lowell Institute lectures of Professor William James in 1906, and their subsequent publication in book form under the title of Pragmatism, interest has been widely aroused. Two names in this country, James and Dewey, and one in England, Schiller, have been closely identified with the movement. Italy boasts of an active pragmatist, Papini, and an organ devoted to the promulgations of its tenets. The wave has reached even further, and the Germans and the writers of northern Europe are admitting that the new movement is worthy of attention.

It certainly should be characteristic of a liberal profession, using the term in its good old-fashioned significance, to take some notice of so far-reaching an intellectual movement. To the physician who instinctively turns to philosophy as a congenial study for his leisure hours, or to the

one who feels the prime necessity of being somewhat in touch with the more important tendencies in human thought, the term Pragmatism must have a very vital interest. The physician would no doubt belong to the class of amateurs described by James, but it is to be hoped in certain instances he will have at least the amateur's enthusiasm. Pragmatism comes from the Greek word which means action, from which the English word practice and practical are derived.

It was introduced into philosophy by Charles Peirce in 1878, in an article entitled "How to Make Our Ideas Clear." Mr. Peirce, after pointing out that our beliefs are really rules for action, said that to develop a thought meaning we need only determine what conduct it is fitted to produce. The tangible fact at the root of all thought distinctions, however subtle, is that there is no one of them so fine as to consist in anything but a possible difference of practice. This is the principle of Peirce, the principle of Pragmatism. The principle here evolved lay dormant in the literature of philosophy until James, in 1898, brought it forward again in a series of lectures to the philosophical class of the University of California. The time now seemed ripe, the word pragmatism spread and the pragmatic movement is now one of the recognized forces in the world of thought. As Pragmatism presupposes always some tangible effect in act, the movement may well be conceived of as having a very practical bearing upon all human conduct. Perhaps it is the latter tendency which has so much attraction for the thoughtful physician. James puts the pragmatic attitude with his accustomed power of description in this way: "Pragmatism represents a perfectly familiar attitude in philosophy, the Empiricist attitude. A pragmatist turns his back resolutely and once for all upon a lot of inveterate habits dear to professional philosophers. He turns away from abstraction and insufficiency, from verbal solutions, from bad a priori reasons, from fixed principles, closed systems and pretended absolutes and origins. He turns towards concreteness and adequacy, towards facts, towards actions and towards power." The full significance of pragmatic attitude can be in no way better illustrated than by the attitude which a pragmatist would assume towards truth. They would say that truth in our ideas and beliefs means the same thing that it means in science. It means nothing but this; that ideas, which are of themselves but parts of our experience, become true just in so far as they help us to get into satisfactory relation with other parts of our experience. Mr. Schiller has given to this view of truth the name Humanism, and he has written, under Studies in Humanism, some of the various applications of this view to a number of the most vital problems in philosophy. From these brief excerpts an idea of the scope of the new philosophy may be obtained. No one could venture to predict how far the wave might reach, nor to what unlooked for results might be the consequence. It seems to do this, however, it offers to the amateur in philosophy a certain tangible hold on the methods and the results of philosophic thought. It certainly brings philosophy very close to the average daily life of an intelligent human being. It enables anyone who is interested in his own mental life, and who at bottom is not, to get away from the puzzling abstractions of terms and the far away upper strata of the professional, and to come into as close touch as

may be with what to him must be in the long run the most vital fact of existence, that is, his own consciousness. Apart from all other reasons there is this fact, Pragmatism is something of importance and interest to every thinking man, and the physician should see that he is not a total stranger to anything so full of possibilities to his own mental regeneration, as well as that of his patient. The only regrettable thing about this attempted exposition of Pragmatism is the half apologetic attitude which the writer feels he must assume, in having this printed in a medical journal. Medical Philistinism is a reminder and remnant of the day when the medical school aimed to produce only practical physicians, meaning, such a one apparently who could do, and should not think beyond the set limits of a narrow professional life. The practical in this sense, though derived from the same Greek word as pragmatic, savors of none of its broader and more humane significance.

With this apology the above is offered to the readers of this journal with the hope that it may stimulate an interest in philosophy as a whole, or in the attempt to give additional vitality to some of its important truths by Pragmatism.

LITERARY NOTES.

Longmans, Green & Co., have recently published "Pragmatism" by Prof. William James. This work has created a veritable furore in scientific circles on account of its insistence on some of the old ways of thinking. In the mad rush incident to the multitudinous theories of modern philosophy scant, if any, attention was given to the old methods of thought; therefore, their advocacy as presented in Prof. James' work is something really new, and should have an appeal to the thinking student, be he philosopher or physician.

The International Congress of Hygiene and Demography opened in Berlin Monday. Twenty-three countries are represented, including delegates from every continent. Their reports will deal with methods of combating tuberculosis and all forms of contagious diseases; with disinfection, inoculation, and the most recent discoveries concerning the hygienic care of children, working people, soldiers and sailors; the control of schools, dwellings, barracks; ships, railroads, and other public conveyances; food inspection, water supplies, the disposal of sewage, baths, emigration, the surveillance of ports, birth and death rates, midwifery, and sanitarium. Among the papers presented by American delegates are the following: Dr. Harvey W. Wiley, chief of the Bureau of Chemistry at Washington, "Legislation Concerning Foodstuffs;" Dr. Stephen E. Baruch of New York, "Public and Factory Baths;" Dr. Herman M. Biggs of New York, "Conquering Tuberculosis, and the Care of Consumptives;" Dr. Richard Pearson Strong, director of the Government Biological Laboratory at Manila, Philippine Islands, "Preventive Inoculation against Plague and Cholera;" Col. William C. Gorgas, chief of the Sanitary Department of the Panama Canal Zone, "Campaign against Yellow Fever;" and Dr. R. G. Freeman of New York, "Milk Control."

ORIGINAL ARTICLES.

VISION AND SENILITY.

BY GEORGE M. GOULD, M. D., Philadelphia.

Patients every day come to the oculist's office saying, "What is the matter with our eyes nowadays? My father is over 60 and reads without glasses." Or, "Grandfather has got his 'second sight' now, and sees better than he ever did," either miles away, or for reading. The professor taking his Sabbatical year, or the old pensioned teacher of physics or of psychology tells of his "cornea flattening" and of his "second sight,"—and so on. As gently as may be, in order not to hurt any feelings, one has to explain that there is no such a thing as second sight, that the cornea does not flatten, that the vision either for near or distance is not as good in those of 60 or over, as it was when they were younger, that the pride of believing glasses are not necessary for the old is vanity that costs eyesight and life,—and so forth.

Pondering over these things the oculist comes to perceive that there is a most intimate and causal relation of vision and old age, or what is at least the same thing, a too early beginning of old age; that, in truth, the habit and fact of over-prolonged senility is almost wholly due to ocular defects and failures. In the first place the pride of the glassless person of over 50 years of age in his ability to see, is often a childish pride, bearing pathetic witness to the desire to hide from his own mental eyes the very fact of his growing old. It testifies to the unconscious admission of the vital relation of good sight and good health, for good vision is the *sine qua non* of health, activity and youthful feeling. Scientific tests always show that this pride of the old is without basis of fact, and that their vision is in one or both eyes highly subnormal, either for near or for distance, or for both. The most overweening of my patients, the one most contemptuous of "the modern oculist crank," did not, at 70, know that he was blind in one eye (from eyestrain-choroiditis) and had between one and two diopters of astigmatism in the badly damaged fellow-eye. He had lived a life of insanitary, almost insane, torment, fighting against the hateful spectacles. Such as he will not and cannot understand that seeing is largely a psychic fact, a perceptual education, with some aid from the eyeballs, and that the poor little they do see is well supplemented by memory. They can read, what little they do read, with the ocular hints of vision less and less accurate, cunningly guessing at the shapes of letters, words, or rather sentences, reading headlines, and, as regards distant ob-

jects, enormously astute in the guessing; and also as marvelously unsuspecting that the little seen is far more a memory than an ocular photographing. Moreover such as they cannot suspect that the little actually seen, the wretched photograph really focussed on the retina, is done at an absurdly useless expense and waste of ocular functions and powers. It quickly brings on disease of the eyes, and a needlessly lessened visual power,—a shortening up both of visual ability and of the old age which is itself so largely caused by poor vision. Thus even the most seemingly innocent of prides and the most excusable of vanities needs the sobering and normalizing correction of fact and science to eliminate injuries and blunders.

Ubi motus, ibi visus est is a happy epitome of the preponderant role of vision in evolution. All free motility of any but the lowest organisms was dependent upon the preceding and *pari passu* elaboration of the visual organ. Every step of developmental progress has been possible only by the aid of vision and its forerunning instrumentality. When one thinks of it this is self-evident, but neither Darwin nor his followers have spoken of the fact. The exclusion of the unfit has been in the majority of instances the exclusion of the visually unfit, and the survival of the fit has been as largely the survival of the visually fit. It has become a truism of science that "the ontogeny repeats the phylogeny," the individual epitomizes the history of the race, and yet every embryologist knows that the human fertilized ovum shows the construction of the eyes under way by the third week, and by the fifth week the eyes begin to move forward from the side of the head. But it is not until the fifth month that there is any difference of muscular tissue in the fetus. The startlingly significant fact must also be borne in mind that unlike any other organ of the body, the retina and optic nerve are an outgrowth of the brain. The eye is thus part of the brain; the brain comes out to see! Long before there could be self motility therefore, the brain and mind foresaw that the organism could live and move only by means of vision. And how long this seeing is before "quickenings," or spontaneous movement! Infinitely greater than that of creating any other organ was the difficulty of forming and upholding the eye. This is first because it must be transparent, and more because it must react to stimuli hundreds of millions of times more slight than, for instance, those of the ear.

The enormity of these difficulties is emphasized and exhibited by the fact that the creator and upholder of the eye has found it impossible to maintain the perfection of the ocular mechanism and function beyond the age of 45 years. With this age his difficulties, always existing before, always only half conquered, become so great that they rapidly interfere with and cripple the entire organismal validity of the human being. Even

in present-day civilization few, very few indeed, of the world's hundreds of millions of inhabitants can get the little help that would prevent this crippling; but before spectacle-lenses were known, presbyopia, cataract, together with conjunctivitis, keratitis, and a dozen other eye-diseases, were cooperating to produce that renunciation of labor and the social functions called old age. The habit of giving up energizing work and useful social functions was established in countless past ages when the eye became unfitted to guide such work. Thus was formed the custom or habit of senility, the renunciation of the youthful and virile offices, and the acceptance of exclusion, of resignation, of waiting for the end. Institutionalism arose and somewhat lessened the hardness of the decree for a few. ("The King is dead, long live the King!"), while religion, parental affection, and advancing civilization united to make it still less bitter. But all modifications, and all forms of disguised pensioning systems altered only slightly the fateful fact. Even now the employes of our railway systems, discharged pensionless because of the age-limit, disappear in a few years—two or three, it is said, on the average—and the death-certificates err or lie in setting down the cause of death. The tremendous rise in the numbers of suicides occurring from 40 to 55 is startlingly significant. Not to be forgotten is the fact that most suicides are unknown, and are willed; they are not instantaneous but slow. "My work is done," "I am laid on the shelf," "of no more use,"—the renunciation of the will to live, the failure to grasp the means of good living—such are the dominant causes of suicide, open or concealed. Therein lies the real tragedy of vital statistics. And the *causa causans* of the uselessness and renunciation has been and still remains the paralysis of opportunity and energy because of the evils, direct and indirect, of bad vision.

What is the first great ocular difficulty which the maker of the eyes had to meet? Plainly to make and keep transparent the ocular structures from the front to the back of the eye, from the skin of the cornea to the last (pigmented) layer of the retina;—transparent as the best glass, they must be, all these highly complex vital tissues,—permeable to the short octave of the incredibly delicate ether-waves called light. There are more than a dozen most cunning devices for shading the retinas and keeping them sensitive to these infinitesimal stimuli. In former ages diseases of the conjunctiva and cornea were vastly more common than now and yet today there are some 50,000 Americans who are blind and mostly because of these difficulties in keeping up transparency. The few that escaped transmitted to us their good fortune and ability to escape. A sigh for the fate of those who did not escape!

But in the past not one of the countless billions could avoid the tragedy of presbyopia, or old-age sight; it overcame many, the hyperopic and as-

tigmatic of high degree, it crippled them all their lives, and sooner or later it choked them to menial tasks or unmerited suffering; and it came upon them most relentlessly at 35 or 40. Those with more normally shaped eyeballs it caught, every one but a few myopes, at 45 or 50, and stopped all handiwork, all the intellectual tasks, all reading and writing, almost all basket and pottery making, weaving, arrow-chipping, shooting, effective fighting, etc. And the few nearsighted were prevented from hunting, games, athletics, etc., upon which uncivilized lives and success so largely depended. No person who has seen even moderately well during active and adult life, can see as well after he or she is 45 and 50 years old. Nature could not make a crystalline lens, or "the accommodational system of the eye" transparent and at the same time perfectly functional beyond the age of 45. This lens must be nourished without the presence of red-blood corpuscles and without any nerve-connections with brain or body. This was the difficulty which was really an impossibility for the biologic mechanic. To that difficulty the effectiveness of all must be more or less subject and limited; and most were absolutely sacrificed to it. It has been one of the controlling factors in establishing "the average length and expectation of life of the insurance and mortality tables. Only a moderate and fair imagination and sympathy is needed to translate it all in terms of personal suffering, sociology, and civilization. It formed the precedent and the sufficient excuse for the custom and habit of recognizing the age of about 50 as that in which "age," "old age," or senility, was full upon the worker. Dependency, at least, had then to be accepted in some form, and to some degree. Despair and renunciation soon followed. The ludicrous ineptitude of Osler's "A man is as old as his arteries" has been exposed by Minot. And could anything, for an amusement-loving scientist, outdo Metchnikoff's uproarious theory of the too great size of the large intestine in man, whence fermentation of the too-long retained food, the fetich of "autotoxemia," and the sour-milk gospel. Sour milk is thus solemnly and literally to prevent old age, and is to take the place of medicine, religion and philosophy, as a world-supporting, death-abolishing God, a divinity of lactic acid, instead of any philosophy or all religions. But Professor Muhlman—these pseudo-scientists are always Professors!—outdoes Professor Metchnikoff, and says that old age is due to the diminution of the surface of the body in proportion to its bulk. The logical result is that the smaller we are, the longer we will live! The Pillars of Hercules have been reached! Minot who smiles audibly at these grins of an expiring pathology, does not suspect, does not even mention the chief cause of old age,—ocular defects and failures—and hastens to argue against the belief that old age is a disease, or due to any disease. He confounds two entirely distinct things,

the anatomic changes of senility and the mental, moral, or dispositional ones. And he also confounds two things which need as emphatic a sundering, the lethal old-age, and the needlessly early assumption of old age. Death none may hope to escape, but its coming is preceded only a brief year or so at most by the organic diseases which directly demand it. The living death which custom has made common, the death of mental and moral energy, the false old age of a score or more of years after 50,—that is a different affair. And that is due almost wholly to visual old age, a kind now easily and wholly obviable. Herein is the solution of the mystery set forth in these suggestive words: "As the organism rises higher and higher in the scale, old age becomes more and more marked, and in no animal is old age perhaps so marked, certainly in no animal is it more marked than in ourselves."

The crippling of ability, the wrecking of health in the young and in adults caused by astigmatism, hyperopia, and anisometropia, occurs in a large minority of all human beings. The proportion rapidly rises with every grade of civilization, with every step of advance in intellectual progress. The average length of life is shortened by it, the total effectiveness of working life tremendously impaired. Those who nowadays by lenses or by absence of morbid ametropia happily avoid the misfortune, go on to the age of 45; but then comes the fate which none may escape, except possibly a few hundreds in a million of American citizens; appears now presbyopia, or failure of accommodation, added to all the other ocular ills. Even for the vast majority of Americans there is yet no hope, because of the blind bigotry and unhumanity of the ophthalmologists and so-called leaders of the medical profession. Hence the inevitable result, cataract. If loss of accommodation and half-blinding were not in past ages a sufficiently incapacitating blow, the total blindness of cataract was supremely decisive. Not to be forgotten is the fact that in early times cataract was far more common than now. All early medicine was mightily concerned with this sad disease. The dramatic and tragic nature of it riveted attention, and exercised a powerful influence in fixing the emotions upon the further uselessness of living, both in the minds of the sufferers, and in those, usually thoughtless and cruel, who had to support them. The logic was terrible, but it was unanswerable, from either point of view;—in such cases presbyopia had long rendered life of little or no use, and cataract was the death-sentence.

Comment is suggested by the double significance of the word virility. The procreant ability of man is not stopped at 50, or 60, or even at 70 years. Men have become fathers at 80 or even 90. This fact is an illuminating gloss upon the accepted belief that old age, or the supposed period of ineffectiveness and life-renunciation begins at about 50. Make old age

accept the helps it may have, root out the superstitions and customs begotten of failing vision, root in the new growth of belief in an energetic last series of clear-seeing years, and the sad grin of resigned stoicism becomes an amused and benignant smile. One may not run quite so swiftly as formerly, or strike so heavily, but in old age, as well as in young age, all right wisdom and life teach that "the race is not to the swift nor the battle to the strong."

And I gather that, as pertinent to woman, the lesson, despite the seeming negative, holds quite as well. Both the facts and the superstitions of old age were established while women were practically enslaved and did all the labor of life, especially the labor that required good vision, and which was prevented by the disabilities of bad vision coming on at 45 or 50. It is most significant that her sensitive organism, prematurely aged by work, cruelty and suffering, should find the ending of its reproductive ability exactly at the time of the great ocular failure we call presbyopia, or "old-age sight." Freed from overwork, the enslavement, the degradation, the cruelty, one already sees the average length of woman's reproductive life, even of her total life, increasing, and youth chasing adulthood to the last confines of a later and a real old-age. For despite all the foolish persons that ever senilely prated of and encouraged the uselessness of the senile, the man of 45, of 50, of 55, and even 60, is except ocularly and by reason of ocularly-created superstitions, most admirably capable of original and splendid work. He may not be as good an advertiser of himself, may not be as effective a hunter after honors and sinecures as he formerly was, but he is at least ripe for the guiding, and the helping, and the judicial government of progress. Take from the world the discoveries and labors of those over 45, and the youngsters would be having a far less enlightened and happy life. Such flippant upstartism, of course, cannot learn and will not be taught that scientific spectacles, (sneered at as "glassing" and "bespectacling") prevent almost all the evils of eyestrain and ill-health in adult life, absolutely annihilate the evils of presbyopia, and prevent the rise of at least nine-tenths of the cases of cataract. The right correction of ametropia is in truth the most important and revolutionizing need of medicine, and the unrivalled condition of social progress. It will do away with more hospitals, extinguish more suffering, lengthen the term of human life more than any or all solutions of the mysteries so avidly sought in all the laboratories. Scornful of functional pathology, worshipping the grinning ghost of anatomic and experimental pathology, the laboratory "expert" seeks the postmortem table, and makes the dead-tissue slide, while neglected functions and the faraway sources of disease endure and pray for a coming scientist with living emotions, with sympathetic desire to prevent the cadavers from coming to his "dead-house."

For the old-age, however unavoidable before our own generation is now absolutely unnecessary. It was in truth a long-drawn-out, over-prolonged valetudinarianism, a pathetically slow method of dying. It is not the way of logical nature, such lingering over the inevitable. Animals, every one of them must outfight or outrun, must keep eye and foot and perception keen, alert up to the minute of the coming of swift and kind death. So should, and so may, men and women hold intact their plasticity and capability, sure foot and nimble wit, up to the last year of their living. A vast deal of praise and nonsense has been written concerning the gain in mere length of living, of "the increasing duration of human life." But we all know this is mostly mere brag, and does not touch the heart of the matter. It is the quality and kind of life which concerns right-minded folk, not continuance of respiration. "Men have found out," said an astute observer, "Men have found out the art of engrafting old age upon themselves before their time." Dr. Minot has admirably shown that the period of decline of old age, the old age of the body, is not only not rapid, but that it is the period of life in which decline is slowest. Is not this luminous truth a demonstration that with the removal of a single cause of this slowest decline, the actual and necessary old age leading to death, may be magnificently postponed? Nothing could be clearer.

And there comes to recognition the fact I emphasize: this, namely, that the needless old age, the assumed senectitude, is really the period of the now unnecessary decline of mentality,—of psychic aging. But psychic aging is a product of past social customs born of defective and aging vision. The psyche itself is most largely the product, the epitomized results, the composite photograph of an infinite number of past visualizations, of normal and healthy seeings. So the morbid psyche is also largely the concrete effects of morbid seeings. Old age was begun too early because bad seeing stopped the doing and being of young age. The truest, the greatest greatness, gathers with the gathering years, when, to right vision and beneficent doing, is added the mature judgment and the large logic which ripened experience alone can give. Thus every good year added to the used and useful life and opportunity of the elders avails in geometric rather than arithmetic proportion.

It is peculiarly noteworthy that civilization, religion, and sympathy have not cut off the useless old, have not as in savage and animal life, swept them off the board in reckless haste. If a forefeeling of coming relief and cure did not motive the patience, the effect is the same, for the annihilation of needless senility by scientific lenses is now possible. Old age, "the disease of Anno Domini" may henceforth be progressively done away with; it should begin not earlier than 70 or 80 surely, and should be limited to the last year or two of life. Hereafter, let no one ever speak

of an "old gentleman" or an "old lady," if the epithets are not to the taste of the sufferer. Long ago one thus insulted, with indignation blurted out the truth: "There is no such thing, sir, as a *fine old man*!" Was his sarcasm not the speaking of the old-time kind of old age, that which was but the reaping of youthful indiscretions, the harvesting of adult sins, the eating of the stale bread of 50 years of selfishness? Chevreul would not have so answered, even at the age of 100 or over. Instead he wrote: "Que voulez vous que j'ecrive sur votre album? Je-vais écrire mon premier principe philosophique, c'est par moi qui l'ai formulé, c'est Malebranche. On doit tendre avec effort à l'infailibilité, sans y prétendre." In the presence of such centenary wit and wisdom one should be ashamed to die even at four score and ten. And he should be much more ashamed to show the faltering insecure step, the nonseeing gaze, the crystallized prejudices, the wait-on-me dispositions of fashionable old age. Of what value several decades of vain renunciations, ignorant wantings, "anecdotalage," sinecure-huntings, duty-evasions, pitiful dependencies, too frequently heretofore called old age? It is no more kind than it is necessary, this old time humoring of those hurrying too conspicuously to assume senility. There was, and there still remains a vanity of senility which at last is but the senility of vanity. The custom may now be done away with of devoting the last twenty or more years of life to useless breathing, futile regrets, empty reminiscences and prolonged dying. Let us pack the whole pother of them into one, and that the last one!

VENEREAL DISEASES.—SHALL THE INNOCENT SUFFER FOR THE GUILTY?

BY ROBERT AMORY, M. D., Boston.

During the last few years there has appeared in literature of the secular press and, also, from the pen of many physicians of high standing as well as in the proceedings of the American Medical Association, the presentation of a very widespread and dangerous condition from the prevalence of venereal and syphilitic contagion from persons who have incurred disease and transmitted these poisons to innocent children and innocent adults.

This condition of things has suggested to medical men collection of data which is most startling to the community.

One of these authors writes: "Venereal morbidity must always remain an unknown and an unknowable quantity."

Neisser—the discoverer of the gonococcus and a distinguished venerealologist of Germany—presented to the Medical Congress assembled at

Brussels several years ago statistics of the prevalence of venereal diseases which are terrifying to contemplate.

The Journal of the American Medical Association (October 20th, 1906), has an article (a paper read by Dr. Prince A. Morrow before the Section on Hygiene and Sanitary Science, June, 1906), on "Publicity as a Factor in Venereal Prophylaxis." Among other comments made in this paper he states: "Venereal diseases are the diseases which above all others are concealed from public observation; both social sentiment and the code of professional ethics have always protected them from exposure. The motive for concealment is emphasized by the element of shame with which they are invested by popular prejudice, from the erroneous idea that they have their exclusive origin in licentious indulgence. In the popular conception they are essentially *les maladies revelatrices*, affording proof positive or presumptive of immoral relations. * * * If venereal diseases were private in the sense of being always limited to the individual who contracts it by voluntary exposure, the case would be different; unfortunately venereal infection from its capacity of expansion, its morbid irradiation through social and family life, its transmission in full virulence to the offspring, and its consequent injury to the productivity and vitality of the race, becomes transformed into a social danger of the greatest magnitude and against which society has the right to protect itself by means of every order. * * *"

"Our system of medical bookkeeping, as exhibited in hospital records, health reports and vital statistics, is not free from misleading entries. A convenient and somewhat elastic medical nomenclature lends itself to this policy of concealment. A vast number of morbid conditions which should be charged to venereal infection are entered under some non-compromising name which does not indicate its real nature. Disease directly caused by gonorrhea, and in which the gonococcus may be identified as the pathogenetic agent, are entered in our hospital records as purulent ophthalmia, arthritis, endocarditis, endometritis, salpingitis, peritonitis, etc. Diseases in which syphilis is the essential etiologic factor are entered as tabes, paresis, paralysis, aneurism, etc. These diseases plainly bear the image and superscription of syphilis, but we do not render to Caesar the things that are Caesar's."

"The report of the New York-committee of seven disclosed the fact that it is not possible to gain from our hospital records or other sources any accurate statistics of the extent of venereal infection in the City of New York. This report states that: 'We find records of cases, many thousands altogether, in which the sequelae of gonorrhea and the systemic manifestations of syphilis are received and treated in hospitals, but are entered under the names which are not recognized by the laity as indicating a venereal origin.' Thus for example: 'In one of the eye hospitals there are

136 cases entered as purulent ophthalmia, in all of which the gonococcus was identified by bacteriologic examination as the pathogenic factor. In the same hospital there were thirty-eight cases of interstitial keratitis, indubitably of syphilitic origin, but not so indicated on the records, etc.'"

"In private practice the concealment of every source of venereal contagion takes on the peremptory obligation imposed by the precepts of the professional code. It is well known that the health boards, the official representatives of the State, which are charged with the control of all contagious diseases dangerous to the public health, ignore the existence, even, of this class of infections."

The above extracts from Dr. Morrow's paper read at the Boston Convention of the Association, has called attention publicly to the avoidance of entering on hospital records the venereal origin of secondary symptoms by its medical and governing staffs in our cities. The writer learned of the concealment, in one of our large city hospitals for children, of the admission of one or more children afflicted with gonorrhea; apparently, there was no record made of their actual disease on the entrance books; in consequence, the infection was communicated unwittingly to other children admitted without gonorrheal disease. This information was given the writer by a member of the board of trustees five years ago; on further inquiry within the past two months one of the surgical staff of that same hospital informed him that on inquiry he could find no evidence of children having been admitted into this hospital, as shown upon the records, with this venereal infection.

Another innocent cause for the conveyance of syphilitic poison has been recently called to the writer's attention by a prominent member of the Massachusetts judiciary; this case (Mass. Report, Vol. 191, p. 585) was appealed to the Massachusetts Supreme Court January 9, 1906, and reviewed before five justices. "It was an action of tort against a dentist for alleged negligence in treating and cleaning the plaintiff's teeth so that she became infected with syphilis; there was evidence that the disease could be communicated by the contact of syphilitic virus on an instrument with a cut on a person's body, that the defendant in cleansing patient's teeth used a revolving circular metal disk and cut the plaintiff's mouth in three places, that two or three weeks afterward syphilitic sores began to form at the points where the cuts were made, that before this time there was no sign of the disease in the plaintiff or her husband, and that the disease was communicated to her in some way connected with the operation on her teeth."

"There was also evidence that to prevent inoculation it is the habit of dentists to disinfect their instruments by boiling water or otherwise, and that the defendant was in the habit of using such means of disinfection."

"Held, that the question, whether the plaintiff was inoculated with the

disease by contact with the instruments used by defendant, and whether this result was attributable to a want of proper care on his part in regard to cleanliness of the instruments, were for the jury. Exceptions sustained, and verdict for plaintiff with damages."

Every family physician must from his experience meet with many cases where he has witnessed the horrible results of conveying infection to the innocent victims by the lust of man. We must all admit that most of this comes originally from the man and not the woman; also that much of the evil lusts of the flesh are fostered by the cheap theaters and concert halls which the young man haunts and from which he is exposed to sexual temptations, especially when he attends without his parents the unclean shows. The reading of unclean books, especially those of suggested lewd thoughts, by the young exalt his sexual appetite which he seeks to appease by illicit intercourse.

The writer would urge upon every one of your*readers to read carefully the following papers, and the discussions by the physicians, before the Section on Hygiene and Sanitary Science of the American Medical Association; these are published in the Journal of the American Medical Association in the numbers for October 8th and 20th and December 22d of 1906. The following is a list of the titles and pages of that year:

Page 1886—The Physical and Evolutionary Basis of Marriage. Bayard Holmes, M. D.

Page 1887—The Guarantee of Safety in the Marriage Contract. A. H. Burr, M. D.

Page 1889—Education as a Factor in the Prevention of Criminal Abortion and Illegitimacy. J. H. Carsten, M. D., H. O. Marcy, M. D.

Page 1891—The Guarantee of Safety in the Marriage Contract. Prof. Dührssen, of Berlin, Germany.

Page 1891—The Protection of the Innocent. William Lee Howard, M. D., E. L. Keyes, M. D.

Page 1947—Discussion on Symposium on Duty of the Profession to Womankind. By Drs. Hunter, Cook, Butler, Munger, Burr, Carsten, Marcy, Calvin, Robie, Searcy and Keyes.

Page 1244—Publicity as a Factor in Venereal Prophylaxis. Prince A. Morrow, M. D.

Page 1246—The Duty of the Medical Profession to the Public in the Matter of Venereal Diseases, and How to Discharge It. W. J. Herdman, M. D.

Page 1248—The Duty of the State Toward Venereal Diseases in France. T. Tuffier, M. D.

Page 1250—What Shall We Teach the Public Regarding Venereal Diseases. Albert E. Carrier, M. D.

Page 1253—What Shall We Teach the Public Regarding Venereal Diseases? Bransford Lewis, M. D.

The general scope and discussion of these papers covered the following ground of the inquiry, to-wit:

Marriage a custom dependent on both physical and psychic factors.

The effect of venereal diseases in the evolution of monogamic marriage.

The need of the protection of women from marital infection. Consequences of such infection. Legislation for protection.

Education and self-control the cure. Evils of late marriages.

Duty of every man to prove himself pure, sound, physically and mentally, before entering matrimony. Dangers of gonorrhea. What should be demanded.

Discussion on symposium of duty of the medical profession to woman.

Value of publicity. Danger of concealment. Specific methods of publicity.

The truth in regard to venereal diseases. Methods of disseminating knowledge.

Need of education. Copies of circulars approved by State and Provincial Boards of Health of North America. Value of statistics of venereal diseases.

Venereal prophylaxis in France. Educational propaganda. Need of better facilities for treatment.

Early instruction. Statistics. Need of hospital accommodation.

Futility of instruction of public generally. Need of work in the previous stage. Possibility of success.

A clergyman, acting as a missionary in Boston, called to the attention of the Episcopal Convention in May, 1906, the existence of this general social evil, and asked to have a committee appointed to investigate more fully the actual grounds upon which the medical profession rested their arguments for calling public attention to this dangerous and wide-spread menace to health, life, marital separation and race suicide. The writer was appointed one of that committee and makes no apology for incorporating the opening sentences of its report presented in May, 1907, to the Current Assembly of Massachusetts Episcopal Convention, to-wit:

REPORT OF THE COMMITTEE ON PUBLIC MORALS.

"To the Convention of the Diocese of Massachusetts:—

Your committee were appointed to make inquiry into the prevalence of immorality and its results; to recommend what, if any, measures are advisable to awaken a sense of responsibility among parents, teachers,

physicians and clergymen for the instruction of the young in personal purity; and to recommend any means which may help to diminish corrupting agencies or to build up a healthy antagonism to whatever undermines public morals.

The appointment of this committee was largely due to the statements made in publications of the American Society of Sanitary and Moral Prophylaxis, and in recent discussions of medical associations. As these declared a condition which implied a wide spread of immorality, your committee felt that it was their first duty to learn the facts.

They therefore addressed a circular to a number of the leading medical authorities in this part of the country, asking their belief as to these facts, and also requesting recommendations as to abating immorality. They have received replies from thirty-seven leading physicians, some of whom are recognized authorities upon these subjects. As these authorities are well nigh unanimous in condemning silence and the resulting ignorance to which in large measure these evils are due, your committee feel it to be their duty to speak plainly.

It is agreed that venereal diseases are very wide spread. Of these diseases, syphilis has always been recognized as highly infectious and dangerous, involving both the guilty and innocent in its consequences. Gonorrhea, however, has been so generally regarded as easily cured and attended by no serious results, that most of the physicians whom we have consulted urge that the recent discovery of its malign effects ought to be widely made known. They say that it is the most widespread of all diseases among the male adult population.

That it has serious consequences upon innocent wives.

That about one-third of all venereal infections in women in the records of private practice are communicated by husbands.

That gonorrheal infection is responsible for nearly one-half of sterile marriages.

That it is as powerful a factor of depopulation as syphilis.

That one-fifth of all cases of blindness is due to gonococcic infection.

That the number of separations and divorces on account of marital infection from venereal disease is much larger than is commonly supposed; and

That these crimes against women are largely due to ignorance.

It would seem from the foregoing resume, gathered from the medical profession throughout this vast country and known to the clerical profession as well, that we have in this era a danger to social life which is far more serious than that of alcoholism and drug intoxication. Both of these last two evils have been combatted by legislative interference, not only by State laws but, also, by congressional statutes which regulate and control interstate commerce; both State and Congress have enacted

laws to preserve public health from contagious disease, from impure food and drugs, and violations of health by faulty sewerage and water supply.

The agitation of a general law to regulate marriage and divorce is another effort to provide for the protection of the community."

We may hope that much good may result from the crusade initiated by the American Society of Sanitary and Moral Prophylaxis in New York City; we should not leave this effort for reform only to this active society; the public must also take up the crusade; churchmen should also enlist active co-operation with society in general by its vast influence to eradicate this live danger to the family surroundings; first of all should family culture protect its members.

Medical journals should join in this crusade, stirring up the reader not only to repair the ravages of disease but, also, to prevent the community from incurring contagion which in social life may be disseminated among innocent wives and their children.

The State should be stirred up by both the medical and the clerical professions to enact stringent laws to prevent inoculation of these diseases from the guilty to the innocent. The fundamental principle inherent throughout the body politic, that no man has the right to take away his life, might here be invoked on the ground that, by common law, as in suicide, it is a crime (mayhem) against the state, as it deprives the commonwealth of one capable of performing military duty because it prevents birth of men and maims men for such duty. In the middle ages the barons claimed that, as their communities could only resist capture by having large bodies of fighting men (whose lives belonged to their suzerain) births should be encouraged to be frequent and families large in order to keep up the armies, and they claimed the lives of all born in their principalities.

But to turn to question of statute laws to regulate health: The Scandinavian nations have required for a number of years that gonorrhea and syphilis should be included among the contagious diseases to be reported by physicians weekly; consequently, these two venereal diseases have decreased in those countries by one-third during the last thirty years since this law was enforced.

In Indiana the last legislature enacted a law that no person who had a transmissible disease (venereal principally) shall be allowed to marry; besides prescribing penalties for infraction of this law licenses were required for marriage; also, the execution of the law was placed in the power of the State Board of Health. This board requires of all applicants for licenses answers to a certain formulary of questions which it has prepared; as these at first were not very exacting, there has been little opposition to the law; the answer to these questions must, under the statute, be certified by an oath; unfortunately, perjury exists, but it

is claimed that perjury is just as frequent in giving court testimony. In one of these applications the young man was asked if he had gonorrhea; to which he replied that he had suffered from an attack but was cured; the license was refused under the law until the man had been examined by a physician and, as the physician reported him still infected, the marriage was prevented. The Indiana law was written by one of the highest judges and is believed to be constitutional.

If tuberculosis, as is now recognized in many of our states to be transmissible by infected persons living in same apartments as the uninfected, is subject to isolated treatment, why should not a similar law be enacted for the disease of gonorrhea, more easily transmissible through the use of cloths and towels in common with infected and uninfected who live in same apartment?

Medical men have, up to the present time, been foremost in presenting to their associates this evil of disseminating the seeds of these vile diseases; the foregoing resume of prominent specialists is a strong witness to the prevalence of wide-spread infection through marriage and personal contact with younger members of families by means of clothing and towels, etc. The writer met, in the course of his practice, a case of a refined married lady who acquired a syphilitic ulcer on her lip in consequence of her husband having kissed her on his return from a three months' trip to Cuba; she was unaware of the cause and fact of the disease, nor did he inform her. This occurred more than twenty-five years ago.

The medical practitioner has the duty, not only to cure diseases, but also, to prevent disease by prophylaxis; it is not too much to expect that the clerical, legal and legislative profession should be pre-eminent in their line and join most earnestly in a crusade to prevent in every way possible, by influence of the church, of enactment of laws and their legal enforcement; social life should invoke the discipline of ostracism to restrain the infected from mingling in society functions. The heads of families should guard their daughters from intimacy with any men suspected of venereal contagion; also, to educate their sons from mingling with depraved women liable to venereal diseases which can in a great measure be prevented by encouraging in many ways amusement and light diversion around the family hearth.

Physicians should point the risk and society should follow along the path and clean up the thorns and thistles therein which, not only scratch and tear the skin, but poison the body and mar the person.

The reader is especially referred to an article in the February (1903) number of the American Journal of Medical Sciences, by Dr. Richard F. Woods, of Philadelphia, on the subject of Vulvovaginitis in the Young, in this article many of these cases were veritable gonorrhea, in which Neisser's gonococci were recognisable in the secretion from the vagina, and at a much later age salpingitis and peritonitis caused death in these cases.

THE VALUE OF EXAMINATION OF THE BLOOD IN THE DIAGNOSIS OF CHRONIC LEAD POISONING.

BY CHARLES SUMNER NEER, M. D., Springfield, Mo.

The purpose of this paper is to emphasize the value of a little used method which is of special interest as it makes it possible to base the diagnosis of plumbism upon the discovery of definite pathological changes.

The recognition of chronic lead poisoning, like the recognition of malaria, is generally easy, but occasionally cases are met with which so closely resemble other diseases that the usual clinical examination may not suffice for an accurate and complete diagnosis. There are few pathological conditions which may present a greater variety of symptoms, or are capable of more puzzling mimicry. At the risk of repeating what is well known let me recall some of the symptoms to which plumbism may give rise, making brief mention of a few of the conditions for which it may be mistaken:

COLIC. This is by far the most common symptom, and may simulate appendicitis, or, according to H. Bernhard, may, in some cases be a cause of that affection. It has been mistaken for cancer of the stomach, the contractions of the pylorus and intestine simulating a tumor, and for gastritis. It may be mistaken for enteritis or may cause a true enteritis. It may imitate hepatic or renal colic or ruptured ectopic pregnancy. (Butler).

ANEMIA. This is often very marked and must be distinguished from the primary anemias and anemia secondary to other causes.

JAUNDICE. Jaundice due to lead, (icterus santurninus), requires differentiation from jaundice of other origin.

PALSY. The paralyses of lead give ample opportunity for error. They may be localized and of the brachial, anti-brachial, the Aran-Duchenne, perineal, or laryngeal type; or they may be generalized. A form of generalized palsy closely resembling ascending paralysis has been observed, and another form assumes the Aran-Duchenne type. (Osler).

ENCEPHALOPATHY. The cerebral symptoms to which plumbism may give rise suggest at once the great possibilities for mistakes in diagnosis. They include convulsions, lead insanity and coma.

The convulsions are the most common. They may resemble epilepsy in all respects, and may be followed by a true epilepsy. Localized convulsions as of the face or of a single limb are not uncommon.

Mental symptoms of a very marked character sometimes occur. The mental state may be one of maniacal excitement, delirium with hallucinations, or the patient may have trance-like attacks. Headache, in-

somnia, vertigo, pupillary alterations, tremor, dimness of vision, etc., may occur, preceding or in connection with the more marked cerebral symptoms, and a symptom-complex may result which is strongly suggestive of cerebral syphilis. This is particularly true if there is a history of syphilitic infection as in Case I, detailed below.

Retinitis, due to lead poisoning, has been observed, and, in the presence of albuminuria, which is a frequent result of plumbism, it may not be easy to distinguish this from albuminuric retinitis.

Hysterical attacks may be excited by plumbism, especially in females.

The difficulties which coma may offer to diagnosis are evident.

FEVER. A considerable degree of fever may occur in the severer forms of chronic lead poisoning. A febrile form of generalized palsy has been described. It seems probable that in the majority of cases the fever is connected with severe disturbance in the gastro-intestinal tract. These cases, an example of which is found in Case II, are probably not common, and a careful examination of the blood may be of the greatest importance in eliminating malaria, typhoid and other febrile affections.

JOINT SYMPTOMS. It is conceivable that lead arthralgia might be mistaken for joint pains due to other causes. Gouty deposits, particularly in the joints of the great toe, are not uncommon in lead workers.

Considering the practical difficulties which chronic lead poisoning may sometimes offer to diagnosis, it is somewhat surprising that more attention is not given by clinicians to a change in the blood which is all but pathognomonic of that condition. While the anemia of lead has nothing to distinguish it from the varying degrees of secondary anemia due to other causes, the alterations in the red cells are very characteristic. These changes are of two kinds: (1) granular or basophilic degeneration, and (2) polychromatophilia. The former is a degeneration in which the red corpuscles contain very small or rather coarse granules which stain with basic stains. Grawitz first called attention to the value of this sign in 1899. These granules are sometimes found in cancer, pernicious anemia, leucæmia, and in certain septicaemias, but is in lead poisoning that they are found in the greatest number and with the greatest constancy. Frey has confirmed the observation of Grawitz, that they may be the first evidence of saturnine intoxication and recommends that workers in lead have their blood examined occasionally as a prophylactic measure. Frey also found that the presence of lead in the urine is not constant in lead poisoning. The other change, polychromatophilia, is a condition in which the red cell instead of possessing the normal affinity for the acid stains, when treated with a mixture of acid and basic stains, presents tints combining the stains employed. This gives the cell, when eosin and hematoxylin are used, a purplish or even a violet color instead of a pink. This change is observed in lead poisoning with as

great constancy as is granular degeneration, with which it is probably very closely allied. (Sahli). It is, however, often found in other severe anemias. The technic of the blood examination is very easy. Frey recommends, for showing granular degeneration, to dry and fix the smear in absolute alcohol and stain with Loeffler's methylene blue. Wright's stain shows the polychromatophilia splendidly and the granular degeneration fairly well.

My experience with this method is limited to seven cases. These were taken consecutively and granular degeneration and polychromatophilia were found in all. In all these cases the clinical symptoms were rather severe. In two of them, however, they were such that the blood examination was of distinct value in diagnosis, and I have considered them of sufficient interest to be given in detail. A third case in which no blood examination was made, is also given as illustrative of a class of cases in which it might be of great value.

Case I. *Lead encephalopathy and alcoholism simulating cerebral syphilis. Diagnosis decided largely by blood examination.*

Patient. W. S. aet. 30, married, American, was brought to the observation ward of the Saint Louis City Hospital at the request of his wife, who stated that he had become violent, flourished a hatchet and threatened to kill himself.

History. Father of the patient died of tuberculosis. Otherwise family history was unimportant. The patient had used alcoholics since the age of 20, excessively at times. Six years before he had taken a "cure" for the liquor habit. For three months he had been working in a lead smelter, and had quit only a few days before his admission to the hospital. He gave a fairly clear history of having had syphilis nine years before for which he was treated but a short time. Otherwise his health had been good until the trouble for which he entered the hospital.

Present Trouble. About two weeks before coming to the hospital, while still working in lead, he began to suffer from headache which was worse at night. He also noticed some dimness of vision. He quit the lead works, but continued to drink and several times when slightly under the influence of liquor he manifested unwonted tendencies to violence. It was as a result of one of these that he was brought to the hospital.

Physical Examination. Young man of slender build, fairly well nourished, but rather anemic. Scars of former buboes were found in the inguinal regions, and a brownish scar was to be seen on the left shin. A scarcely discernible blue line was found at the margin of the gums. The abdomen was soft and insensitive, the spleen not palpable and the liver dullness not increased. Examination of the lungs and heart showed nothing abnormal. The pupils were decidedly unequal, but both reacted to

light and in accommodation. There was no paralysis of any kind. The reflexes were present and of average strength, and there was no disturbance of gait, station or speech. The urine was acid, had a specific gravity of 1004 and showed no albumin sugar or casts.

With the evidences of the previous acquisition of syphilis, the history of nocturnal headache, visual disturbance, and mental symptoms, and the presence of inequality of the pupils, it became a matter of some difficulty and of much importance to say whether the patient was suffering from cerebral syphilis, or to what extent, if any, his symptoms could be attributed to lead encephalopathy. The influence of alcoholism was of course to be taken into consideration.

The blood was examined and granular degeneration polychromatophilia of the red cells, and a few normoblasts were found. This finding, indicating as it did, a severe degree of saturnine intoxication, made it very probable that we had to deal with a lead encephalopathy aggravated by alcoholism. The man was rational and well behaved during his stay in the hospital; the headache improved, the pupillary difference disappeared and within a few days his wife decided to take him home.

Case II. Lead colic with attacks of fever. Blood examination gave evidence of severe lead intoxication, and was of assistance in eliminating malaria, etc.

Patient. R. H. Col. aet. 32, single, American, came to the City Hospital in December, 1906, with colicky pains in the abdomen and severe constipation.

History. His mother died of pulmonary tuberculosis, but the family history was otherwise of no importance. He had been working for about five months in a lead smelter, constantly inhaling the fumes of the metal. He drank two or three glasses of beer daily. He had had the usual diseases of childhood and gonorrhea and chancroids, but no other illness.

Present Trouble. He was obliged to quit work about a week before entering the hospital, because of severe pain in the belly and general weakness.

Physical Examination. Well developed, but rather anemic mulatto. The conjunctivæ were slightly yellow. The tongue was heavily coated and a very marked lead line could be seen on the gums. The abdomen was soft and but very slightly tender to pressure. His spleen was not palpable, and the liver dullness not increased. The respiratory, circulatory, and nervous systems were negative. The urine showed nothing pathological, except a few hyaline casts at one examination.

The day after his entrance he had a slight rise of temperature and two days later, December 13th, after slight chilliness, his temperature went to 103.8 F. and his pulse 130, where they remained with little variation

for two days. The patient appeared quite sick during this time, though he had scarcely any pain. Saliva dribbled constantly, a phenomenon in accord with the observation of Musser that "in the more advanced cases (of plumbism) there is some salivation."

Malaria was of course suspected, but a very careful blood examination by the late Doctor P. J. Weber and myself revealed no malarial organisms. It did, however, show polychromatophilia and granular degeneration of the red cells and a fairly large number of nucleated reds, and some degree of poikilocytosis. There was only a slight leucocytosis and 3,400,000 red cells. The Widal and Diazo tests were negative. The temperature on the 16th reached normal and remained so for several days without quinine. The patient stayed in the hospital several weeks and had several other slighter exacerbations of fever which I feel sure were not due to malaria.

The profound alterations shown by the red cells, the extreme weakness, marked constipation and other evidences of an unusual degree of lead poisoning, made it seem very probable that the fever was in some way the result of that condition.

In such cases as the following an examination of the blood might be of the greatest value in establishing the cause of the convulsive seizures. "In fits developing in the adult the possibility of lead poisoning should always be suspected." (Osler).

Case III. *Epileptiform seizures in a man of 47. History of working in lead for 20 years and of indulgence in alcohol.*

Patient. F. H. aet. 47, American, married, was brought to the hospital from jail where he had had a fit. He was under arrest and as a result of a quarrel.

History. Father died at 83. Mother still living and healthy at 65. There was no history of nervous diseases in the family. Patient had been a painter for over 20 years, and had been accustomed to drinking a few glasses of beer daily, going on occasional sprees. He used tobacco rather to excess. His previous health had been good except for the usual diseases of childhood, and an attack of malaria. No history of syphilis was obtained. Four years before he began to have periodical attacks of pain in the abdomen and cramps in the limbs. These occurred at irregular intervals and were worse after excessive indulgence in alcohol. He was troubled frequently with headache. Constipation was not a prominent symptom. About three years before he had an epileptiform attack and since then two or three other similar fits had occurred at intervals of several months.

Present Trouble. While in jail he had an attack of convulsions followed by unconsciousness, for which he was brought to the hospital. When he entered he showed considerable nervousness and shook as

though he might be having a chill. The temperature was elevated slightly above the normal.

Physical Examination. Well built, well nourished man of sandy complexion. The mucous membranes were pale. The skin was clear and there was no oedema. The tongue was coated, the teeth poorly kept, and lead lines were to be seen along the margins of the gums. The abdomen was soft and not tender, and the spleen not palpable. Examination of the lungs showed nothing abnormal. Apex beat was in the usual position. At the first examination a soft systolic apical murmur was heard, but this soon disappeared. The urine showed a trace of albumin but no casts. The pupils were equal and reacted to light and accommodation. The reflexes were present and of average strength, and there was no paralysis.

After entering the hospital he had a typical epileptic seizure preceded by a cry and followed by unconsciousness.

In this case no examination of the blood was made, and by this omission we failed to make use of a means by which one might arrive at a more definite idea as to how far the convulsions were to be attributed to lead and how far to alcohol.

Another group of cases to which this method of examination may be applied includes those in which plumbism develops from unusual or obscure causes. For example Braatz has collected records of six cases in which lead projectiles encapsulated in the tissues gave rise to symptoms of lead poisoning.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF
JESSE S. MYER, M. D.

A CASE OF PRIMARY CARCINOMA OF THE APPENDIX.—Grunbaum (*Berliner Klin. Wochen.*, No. 32, 1907).—Lauder reported a case of primary carcinoma of the appendix in 1906, in a patient operated upon for myoma, and he called attention to the importance of investigating the appendix in every laparotomy and recommends that any case in which macroscopical changes are seen, the appendix should be removed.

The author reports a case operated upon for pyosalpinx in which the appendix showed primary carcinoma. The proximal end of the appendix was perfectly normal, while the distal end was about the size of a bean, thick and hard. It proved to be a solid new growth, the microscopical examination of which revealed carcinoma simplex. The patient was 19 years of age, gave a definite history of an attack of appendicitis four weeks before the operation. At the time of the operation, the physical findings were those of a double-sided pyosalpinx. The author has been able to find seventy cases of carcinoma of the appendix recorded in the literature, of which Lubawsch reports one in a boy 17 years of age.

ABSENCE AND MARKED DIMINUTION OF THE HYDROCHLORIC ACID OF THE GASTRIC CONTENTS IN CANCER INVOLVING ORGANS OTHER THAN THE STOMACH.—Friedenwald and Rosenthal (*New York Med. Jour.*, August 24, 1907).—The authors conducted a series of investigations with a view to determining the relationship of the hydrochloric acid of the gastric contents to carcinoma in portions of the body other than the stomach. Of the twenty-nine cases nine were cases of cancer of the breast, five cancer of the uterus, seven cancer of the rectum, two cancer of the tongue, four cancer of the face, one cancer of the intestines and one cancer of the pancreas. In all of the cases an Ewald test breakfast was given and removed at the end of an hour, and the gastric contents examined. From one to four examinations were made in each case. Nine cases showed a low total acidity with an entire absence of free hydrochloric acid; ten showed a low total acidity with a marked diminution of free hydrochloric acid, and the remaining ten a normal acidity with a normal percentage of free hydrochloric acid. It was found that in nineteen of the twenty-nine cases there was either an entire absence or diminution of free hydrochloric acid. In ten of these cases, examinations of the gastric contents were made after the total extirpation of the growth and in not one of these cases did the free hydrochloric acid return after it had disappeared, and in those instances in which it was diminished before the operation, it remained so afterwards.

The authors call attention to the fact, pointed out by Moore, that any doubtful cases of cancer, no matter what the situation of the growth,

the absence or diminution of the hydrochloric acid may at times be a valuable aid in diagnosis.

SYPHILIS OF THE HEART AND ITS EARLY DIAGNOSIS.—Herzog (*Berlin Klin. Wochen.*, No. 32, 1907).—The author believes that too little stress is laid upon the luetic origin of certain cardiac disturbances, and calls attention to a train of symptoms occurring suddenly in young people, which he thinks almost invariably points to lues and that these cases should be given an anti-luetic treatment. The symptoms are those of pain in the cardiac regions, often radiating, difficulty in breathing, high blood pressure, Musset's symptom, accentuation of the second aortic sound, increased blood pressure in the radial, a wide, tumultuous apex beat. These symptoms point to disease of the aorta, or coronary arteries. Every severe case of angina pectoris in young people or those of middle age, as well as moderate symptoms of precordial pressure, and fear, in those who were previously well, should always prompt one to think about the possibility of lues. These cases often yield to anti-luetic treatment, as is definitely shown by the cases he reported.

IS OPIUM USEFUL OR INJURIOUS IN ACUTE PERITYPHLITIS.—Pel (*Berliner Klinische Wochen.*, No. 32, 1907).—The author discusses the advisability of using opium in the treatment of perityphlitis and comes to the conclusion that the rational use of opium, together with bed rest, strict diet, applications of ice and the avoidance of laxatives, bring about a favorable result in about 90 per cent of the cases. He considers the use of laxatives in these cases entirely contraindicated, and the use of opium absolutely called for.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF
CARL FISCH, M. D.

THE USE OF AMMONIUM OXALATE IN BLOOD CULTURE TECHNIQUE.—Epstein (*Amer. Jour. of the Med. Sc.*, Sept. 1907).—Epstein has added to the methods of the early establishment of typhoid and other septicemic infections, a very convenient procedure that allows of a quick and reliable demonstration of the typhoid bacilli in the blood in the first days of the disease. It consists in the dilution of the blood with 10 c.c. of a solution composed as follows: ammonium oxalate, 2 grammes; sodium chloride, 6 grammes; aqua distill. 1000. The solution prevents coagulation and therefore the bactericidal effect of the serum. The life of the bacteria is not endangered by it, and cultures from the diluted blood can be made in the ordinary ways. The advantage of the method is its great facility and the slight inconvenience to the patient. The surprising side of the problem is that the author needs a large amount of blood (10 c.c.); this, with the preparation for obtaining it, proved the greatest part of the inconvenience. This may be neglected in doubtful cases of

septicæmia, but not in typhoid where a much smaller amount of blood from the fourth to the twelfth days always contains bacilli in sufficient number to be easily demonstrated by culture, for classical typhoid as well as the abortive and light cases. One c.c. of the blood is sufficient for the diagnosis and is easily obtained by puncture of a finger or auricle. The number present in such an amount may be too small for demonstration when diluted with 10 c.c. of the author's solution, but is easily demonstrated by using as a diluting medium sterilized ox-gall. This not only prevents coagulation of the blood without bactericidal effect of the bacilli, but at the same time allows the latter to multiply and be made more easily accessible to cultural demonstration. The inconvenience connected with the procedure is not greater than that of every ordinary blood examination. The method that is now used widely in Germany for this purpose is reliable in the great majority of cases. The advantage of the German method is that the ox-gall dilution of the blood can be sent almost any distance for analysis. This certainly does not obtain for an oxalate of ammonium solution. Epstein's method will be a great facility on occasions where little opportunity exists for better and easier procedure, and must be regarded as a means to establish an early diagnosis of blood infections.

THE CONCEPTION OF MESENCHYM AND THE DOCTRINE OF THE SPECIFICITY OF THE GERMINAL LAYERS.—Voit (*Deutsch. Med. Woch.*, 1907, No. 30).—Voit reviewed the gradual change that has occurred during the last few years in the two embryologic conceptions named in the title. Mesenchym was the name of all cell masses lying between the two epithelial germinal layers and was introduced by the Hertwigs. The general opinion was that in vertebrates this mesenchym was derived from various portions of the middle layer (the mesoblast). All organs originating in it were thought to be its products. Late investigation, however, have conclusively demonstrated that the two epidermic layers can take part in the function of the formation of the mesenchym, especially the ectoderm, so that a number of structures and organs previously attributed to the mesoderm are really ectodermic or entodermic in origin. Kastschenko and Goronowisch showed the derivation of certain cranial structures from the ectoderm in vertebrate embryos, and Kupffer, Dohrn and others found that ectodermal mesenchym formed the cartilages of the visceral bones of many vertebrates. The assertion of Kilaatsch that the scleroblasts, the formative cells of bones and teeth, were of ectodermic origin, and contradicted by some observers, has lately been reaffirmed by Szily in Voit's laboratory for a great number of ossifications of the skin of fishes that arose from osteoblasts formed by the ectoderm. Maurer and Pletterer claim, as the result of their investigations, that a large portion of the cutis of the skin arises from the basal cells of the ectoderm. These observations, however, for the present have not been verified.

It is certain, nevertheless, that in the future the mesenchym cannot be considered only as a product of the entoderm and that all structures and organs arising from the mesenchym cannot be made one homogenous group. The name mesenchym today represents only a histologic conception. In the development of the organs from each of the germinal layers two different procedures can obtain. If by folding, or bud forma-

tion from the epithelial layer, an organ is developed, its origin from the respective layer is easily demonstrated. The origin of most of the organs thus developed is today finally established. In other organs the formation is different and consists in a separation of the cells from each other, so that they have a period of mesenchymal life. This obtains not only for mesoblastic layers, but also for ecto- and entoderm. In this way the mesenchym fractions arise from different origins, for their very mesenchymatic character cannot be differentiated any more, so that it is difficult in these cases always to lay hand on the germinal layer that gave rise to the mesenchym formation. Only where the different portions of mesenchym retain for some time their differential characters can certainly be obtained. Some cases in which success was obtained are in part cited in the beginning of this review. It will be necessary by future investigations to determine the origin of any of the mesenchymal group of structures and organs. It is very important that the fact has been demonstrated that uniform tissues can arise from two different germinal layers. Thus the cartilaginous structures are partly mesodermal, partly ectodermal; for the osseous tissue the same condition has been made almost certain. More numerous are the observations on the origin of smooth and striated muscle fibres from ectoderm as well as from mesoderm. This was long known for the smooth muscle cells of the sudatory and sebaceous glands; some splendid researches have lately shown the same for the muscles of the eyes of vertebrates, and for muscles in many avertebrate animals.

The doctrine of the specificity of the germinal layers must be revised. The specificity of tissues and the specificity for organs must be kept apart. The idea that a certain tissue can always arise only from one germinal layer must be abandoned. The same does not obtain for the specificity of organs. In view of comparative anatomic problems the proper valuation of the various organs will be the result of further investigations. For pathology it will result in valuable knowledge about the character of tumors and other new formations, making their arrangement as to their genetic character dependent upon the knowledge of the developmental origin or composition of the tissue or organ in which they are located.

THE NATURE OF MALIGNANT TUMORS.—E. V. Dungern and R. Werner. Leipzig, 1907.

V. Dungern's and R. Werner's book brings the most lucid and comprehensive critical review of all of the facts as yet established in our knowledge of tumors, considering them mainly from their relation to the understanding of the nature and origin of malignant tumors. The book is not only a critical review, but represents at the same time the original views of the authors, many new thoughts and the conclusions from many experiments. Most interesting of these are the ones demonstrating the effects of various stimuli on cells, causing various biologic and even morphologic changes of their character. The teachings of Weigert that proliferation of tissue is produced by stimuli doing away with the physiologically present capacity of the cells of inhibition of growth, have been brought nearer to our understanding by their experiments, and built into a theory that not only explains the normal growth, but also

that proliferation occurring after the application of temporary or continuous stimuli seems to be now in reach of our experimental methods. V. Dungern maintains that the return to normal inhibiting capacity occurs, too, in normal cells, if transplanted in heterogeneous tissue. The separation from normal connections alone, as Ribbert emphasizes, can never produce an essential change in the character of the growth of these cells. Such a change can only be produced by the alteration of the reacting capacity of the cells themselves. We are, therefore, compelled to consider the normal reactive capacity of cells on external stimuli, to which the stimuli between the different cells themselves must be added, as the most important factor of growth.

According to the authors the rapid growth and proliferation of the cells of malignant tumors may be due to the fact that their inhibiting function either is impaired or altogether destroyed, and that at the same time the cell has lost its capacity of restitution of the lost function. This idea is in full accord with the results of Ehrlich's work on mouse-carcinomata and with the biologic qualities of other rapidly growing tumors. The authors deny that there is a similarity between tumor cells and embryonal cells; they assert that both forms of cells behave absolutely differently with regard to stimuli to growth, a view that is also announced by Hertwig.

The inflammatory processes in the peripheral regions of cancers are considered simply as reaction of the surrounding connective tissue and not as a factor introductory to the formation or growth of a tumor.

In regard to the immunity phenomena discovered and interpreted by Ehrlich by the assumption of an atreptic immunity, the authors are reluctant and look at them in a different way. The details of their arguments cannot be entered into here.

In the last two chapters of the book, the authors deal with the known theories and opinions about origin and growth of tumors. They insist that all explanations, not figuring with the biologic change of the tumor cells, like those of Cohnheim, Ribbert, etc., are unsatisfactory. The work seems to have shown for the first time in which way these biologic changes from normal to tumor cells can be produced.

As to the etiology of tumors the authors admit that it can be different in different tumors. The changes in the cells may be due in some cases to embryonal malformations, but we have no certain knowledge about this point. The most important quality of malignant cells, the absence of restitutional power for the decreased or absent inhibiting function of the cell, in their opinion, can be more exactly demonstrated. Their experiments demonstrate that even in normal cells artificially a decrease of this restitutional capacity can be achieved if a rather intense stimulus, without allowing a time of recuperation, is applied at short intervals or with combining different stimuli. Therefore it is easy to imagine that combinations of external stimuli exist which either act on the inhibitive factor more intensely than on the others, or are specific for them. In this light a stimulus exerted by micro-organisms can not be *a priori* excluded, although our experiences seem to contradict such a possibility.

Dungern's and Werner's book when read at first appears as an original and beautiful dream of logical minds highly developed. Dungern is admired in his other eminently important works for this absolutely logical

trend of his investigations which have contributed facts of fundamental importance to biologic knowledge. That it is not a dream, but the logical consideration of his experimental work on biologic changes of cells that is detailed in the book, is the point that calls for thorough deliberation and for the direction of the work of others in the same line. The authors' ideas are in line with thoughts that for the last twenty years have become more and more universal about the question of the role of the cell and the consideration of the complex organism. Are they really the individuals composing the latter or not; rather simply the single parts of a complex living structure, each one formed to serve a special purpose necessary for the existence of a complex whole?

DIAGNOSIS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

LEUCOCYTOSIS IN APPENDICITIS.—Kothe (*Ztschr. f. Chir.*, 1907, No. 4-6).—While a moderately high leucocytosis, temperature and pulse speak for a mild type of appendicitis, a rapid increase of these three factors has a more serious meaning. Any marked disproportion between them is still more significant. Thus a high leucocyte count (30,000 and above) is always a sign of severe infection, but, inasmuch as it indicates a sufficient power of reaction on the part of the organism, still allows a favorable prognosis. Where, however, the leucocytosis is disproportionately low, an extremely severe infection with poor recuperative power should be feared. If the leucocytosis persists after operation, or if, after a temporary fall, it again rises, pus is still present somewhere.

EXTREME LEUCOCYTOSIS IN SEVERE INFECTIONS.—Hirschfeld and Kothe (*Deutsch. med. Wochenschr.*, 1907, No. 3).—The writers report ten cases of severe infection, chiefly peritonitis, in which the leucocyte count exceeded 60,000. All but three ended fatally. One case of appendicitis is especially interesting. In spite of early operation the leucocyte count steadily rose until it reached 190,000. The blood picture more and more took on the character of a myelogenous leukemia, there being over 7 per cent of myelocytes. The autopsy showed an absence of peritonitis. Evidently the toxins produced by the infection had so injured the bone marrow as to give rise to a leucemic blood. The case is probably unique.

EYE SYMPTOMS IN MENINGITIS.—Ballantyne (*Brit. Med. Jour.*, 1907, No. 2430).—Conjunctival hemorrhages and herpes of the eyelids are of diagnostic value in meningitis, since they do not occur in other infectious diseases. Conjunctivitis is an early symptom of meningococcus meningitis and is absent in meningitis due to other micro-organisms. Motor paralysis, optic neuritis and interference with vision, in the absence of

ophthalmoscopic changes, point to tuberculosis meningitis, whereas spasmodic and dissociated movements of the eye speak for epidemic cerebrospinal meningitis.

A NEW TEST FOR TUBERCULOUS PUS.—Mueller (*Centralbl. f. inn. Med.*, 1907, No. 12).—Hitherto the Mueller-Jochmann method has been our only means of distinguishing macroscopically between tuberculous and non-tuberculous pus. When a trace of the pus is placed on some sterile coagulated blood-serum and the latter put into the incubator, no change takes place if the pus is tuberculous. Pus due to the ordinary pyogenic bacteria, on the other hand, will form a small cup-shaped depression in the culture medium. This is due to the fact that ordinary pus contains a proteolytic ferment that can digest the blood-serum, whereas this ferment is lacking in purely tuberculous pus. Mueller has succeeded in greatly simplifying this test. A drop of the pus is allowed to fall into a small vessel containing some Millon's reagent. Ordinary pus forms a little lump that soon disintegrates and colors the liquid bright red. Tuberculous pus, on the other hand, forms a tough skin on the surface of the fluid, which, if pushed down, takes on a globular shape. It is not dissolved and does not color the fluid. The explanation of this phenomenon is the same as that of the older test. Tuberculous pus contains chiefly albuminous bodies that form a firm coagulum with Millon's reagent. The proteolytic ferment in ordinary pus, however, digests its own proteids with the formation of albumoses and the like. These diffuse into the Millon's reagent, disintegrating the coagulum and giving rise to the characteristic red color.

THE INTERPRETATION OF THE DEGREE OF GASTRIC ACIDITY.—Prym (*Deutsch. Arch. f. klin. Med.*, 1907, Nos. 3-4).—As the contents of the stomach tend to arrange themselves in layers of varying consistency and acidity, the expressing of a portion of the gastric contents may give rise to utterly false conclusions. This fact renders the use of Sahli's soup test-meal, as well as the method of Mathieu-Remond, illogical and useless. The ordinary Ewald test-breakfast gives trustworthy results only if the entire gastric contents are expressed, but remains our most useful method if this precaution is observed.

MACROSCOPIC EXAMINATION OF SPUTUM.—Goodman (*Jour. A. M. A.*, 1907, No. 26).—Goodman places the sputum in the inverted lid of a Petri dish. The dish itself is then placed bottom downwards into the lid and moderate pressure exerted. The sputum spreads out evenly, does not readily escape from between the glass surfaces and can be conveniently examined against a dark background.

DIAGNOSIS OF UROGENITAL TUBERCULOSIS.—Rolly (*Muench. med. Wochenschr.*, 1907, No. 31).—The writer points out that tuberculosis of the urogenital tract is much more common than is generally supposed, and that in incipient cases the diagnosis can often only be made by means of the demonstration of tubercle bacilli in the urine. As the re-

sult of considerable experience he is certain that we are not able, by means of any of our methods of staining and decolorizing, to distinguish between tubercle bacilli and those belonging to the group of the smegma bacillus. Cultural methods are valueless. The early diagnosis of urogenital tuberculosis is only possible by means of the injection into guinea pigs of the urinary sediment.

BRONCHOPHONY OF THE WHISPERING VOICE.—Masing (*Beitr. z. Klin. d. Tuberk.*, 1907, No. 4).—The earliest sign of apical tuberculosis is a bronchophony that can be elicited when the patient is made to whisper. Later in the disease this phenomenon may vanish, but reappears when recovery is nearly complete. Its disappearance then marks the final return to health.

A QUANTITATIVE METHOD OF ESTIMATING PEPSIN.—Liebman (*Abstr. in Muench. med. Wochenschr.*, 1907, No. 31).—The writer uses an emulsion of coagulated albumin. This forms a milky fluid, that gradually becomes nearly as clear as water under the influence of hydrochloric acid and pepsin. The degree of turbidity still present after the gastric contents have acted upon the emulsion for a definite time is a good measure of the peptic activity. As a standard of comparison he uses solutions of known strength of Armour's pepsin.

THERAPEUTICS.

IN CHARGE OF

WILLIAM ENGELBACH, M. D.

DIPHTHERIA ANTITOXIN IN HAY FEVER AND ASTHMA.—Reuter (*Proceedings of the Oregon State Medical Association*).—The author used antitoxin in sixty cases of hay fever and asthma in repeated doses of 2,000 to 3,000 units. Fifty-one patients were cured; fifteen cases caused by diseases of the heart, kidney or liver, and tuberculosis, were not benefited; four other cases were only temporarily relieved. Smith used antitoxin in several cases and believed that 60 per cent of asthmatics can be benefited. He believes that when failure occurs with this treatment it is due to emphysema and other destructive processes of the lung. Gillespie reports good results in two cases. Pierce used it in twelve cases with more or less success. He thought most relief was gained in neurotic cases of asthma with anemia.

DIET IN KIDNEY AFFECTIONS.—Hanssen (*Nordiskt Medicinskt Arkiv.*, Stockholm, XXXIX., No. 4; *Ref. Jour. A. M. A.*, XLIX., No. 8).—Hanssen tabulates the findings in regard to the metabolism of a number of persons on different diets. They show that the amount of solids eliminated in the urine is as large on a strict milk diet as on a meat diet. The demands on the kidneys are thus as high on a milk diet

as when meat is ingested. Fats and carbohydrates, on the contrary, made far less demands on the kidneys, carbohydrates less than the fats. He confirms the reliability of the "variability test" to determine the functional capacity of the kidneys. His conclusions are that a predominant or exclusive diet of carbohydrates with a little fat is indicated in all cases in which the functional capacity of the kidneys is reduced to or below the limits of normal sufficiency. Milk and meat, providing the same amount of calories, cause elimination through the kidneys of about the same amount of molecules, while materially smaller amounts of solid elements are eliminated through the kidneys on a diet of carbohydrates with a little fat. He regards a maximal specific gravity of 1.014 or 1.015 under the "variability test" of the urine as an indication that the limits of sufficiency of the kidneys have been reached, and that meat and milk should be restricted. If the specific gravity rises higher than 1.013 or 1.014, or there are signs of retention, then meat and milk should be entirely or almost entirely suppressed. In case of uremia nothing should be allowed but gruels with milk sugar. This takes the place of milk in regard to diuretic action.

POTASSIUM PERMANGANATE IN THE TREATMENT OF SNAKE BITES.—Diesing (*Archiv. für Schiffs und Tropen-Hygiene*, Vol. XI., No. 11, 1907).—The author has used permanganate successfully in the following manner: As soon as possible a tourniquet is placed above the bite, and potassium permanganate (about one to two cubic centimeters of a 1 per cent solution) is then injected subcutaneously around the wound, entirely encircling it. The poison, which has not as yet been absorbed, is thus oxidized and made harmless. Any general symptoms which may already have set in are treated in the usual way with whisky, etc. In certain regions where venomous snakes abound many of the inhabitants habitually carry vials containing a solution of potassium permanganate and use it in the way just described.

CASE OF CEREBROSPINAL MENINGITIS, ISOLATION OF THE SPECIFIC ORGANISM, PREPARATION OF A VACCINE, RECOVERY.—Rundle, Mottram, and Williams (*Lancet*, July 27, 1907).—This article describes a remarkable cure of a patient with cerebrospinal meningitis by vaccination with a serum produced by inoculating vaccine. This was made as follows: A 24-hour-old culture was inoculated into sterile normal saline solution and placed in a water bath at 60 deg. C. for half an hour; nasgar tubes were inoculated from it and incubated overnight to test sterility. The number of cocci contained was estimated by mixing known volumes of washed normal blood and vaccine; these were then diluted with normal saline solution, films prepared at once and stained by Leishman's method. The number of organisms present was counted against the red blood corpuscles. The vaccine was freshly prepared for each of the first four doses; the fifth had been made seven days before use. No local reaction was observed after any of the injections. The patient, a male child aged 6 months, came under treatment at a time when the conditions justified an unfavorable prognosis. The apyrexia follow-

ing the first injection of the vaccine recurred after subsequent injections. A rapid and complete recovery without definite relapses or involvement of special senses was the final result.

MORPHIN AND THE ALIMENTARY CANAL.—Magnus (*Jour. A. M. A.*, Vol. XLIX., No. 9, Page 777).—The influence of morphin on the motor function of the gastrointestinal tract has long been a disputed point. In the human subject, the effect of morphin is usually seen in constipation, although in the non-habituated, as well as in the dog, the cat and the rabbit, diarrhea may be provoked. According to Nothnagel, this result is brought about by the action of the drug on a spinal center, small doses stimulating the inhibitory mechanism and large doses paralyzing it. Other writers contend that the morphin acts directly on the intestinal wall, while still others believe that the action is partly central and partly peripheral. Several observers have investigated the influence of morphin on the action of the stomach. Batelli reports that the gastric movements are at first stimulated and later inhibited. Hirsch, who studied the gastric movements of a dog through a duodenal fistula, states that the evacuation of the stomach is delayed by a spasmodic contraction of the pylorus. Riegel has shown that morphin produces hypersecretion and hyperchlorhydria. The most recent work on this subject may be found in the investigations of Magnus, who, while he has not succeeded in simplifying the problem, has demonstrated certain facts which should help to harmonize much of the apparently contradictory evidence now before us. The first step in the work of Magnus was to test the validity of Nothnagel's theory. To accomplish this, he operated on cats, carefully dividing the nerve plexuses about the celiac axis and superior mesenteric vessels from the solar ganglia and the hypogastric, the inferior mesenteric and the small ascending colic branches from the mesenteric ganglia, thus practically cutting off the sympathetic nerve supply of the stomach and intestine. Before proceeding with the experiment he allowed a period of at least seven days to elapse, in which time he was able to demonstrate a degeneration of the peripheral portion of the cut nerves. In cats thus treated he was able to control an artificially induced diarrhea with as little morphin as had been required for the same cats before the operation, thus proving that the sympathetic system is not a necessary factor in this action of morphin. In his further studies on the nature of the changes brought about by morphin, Magnus made use of Cannon's method of studying the movements of the gastrointestinal tract. Cats were fed with twenty-five centimeters of potato gruel, containing five grams of bismuth, and were then observed by means of a fluoroscope. In the normal cat the entire stomach could be outlined by the shadow of the bismuth, and in the course of about fifteen minutes portions of the contents were seen to be rhythmically forced into the duodenum. In cats which had previously received an injection of morphin the picture was very different. In most cases, a certain amount of the food remained in the lower part of the esophagus for some time, but the most constant occurrence was a stasis of the food in the fundus of the stomach. When the morphin was administered after the stomach was full, the organ was seen to be divided into two parts by a spasmodic contraction of that circular bundle of muscle fibers known as the sphinc-

ter antri pylorici. That portion of the food which was shut off in the fundus by the sphincter remained there for a number of hours, while that which had already passed the sphincter went on undisturbed into the duodenum. Further experiments with a dog, in which a duodenal fistula had been established, showed that the time intervening between the entrance of food into the stomach and its passage into the duodenum was greatly lengthened by the influence of morphin, and that it required much more time for the stomach to empty itself, even after peristalsis had been re-established. His observations on the small intestine, both by means of the fluoroscope and by direct observation of the isolated gut, showed a stimulating action of morphin in moderate amounts, while very large doses slowed or stopped the peristaltic movements. This he attributed to the action of the drug on the plexus of Auerbach. While the passage of the chyme through the small intestine was accomplished with more rapidity than under normal circumstances, its ultimate arrival at the colon was much delayed by its retention in the stomach. Magnus could demonstrate little or no influence of morphin on the movements of the large intestine. These experiments suggest that the constipation caused by morphin is the result of the retention of food in the stomach, and this may be due, at least partly, to the hypersecretion and increased acidity of the stomach contents, which, it is well known, exerts an inhibiting influence on the gastric and intestinal movements. An interesting observation of Magnus concerns the dilatation of the stomach which occurs under the influence of morphin, and which he attributes to the accumulation of air, which seems to be retained in consequence of spasm of the cardia. To what extent these observations of Magnus on experimental animals may be applied to the human subject remains to be demonstrated. Clinical evidence has shown that under many circumstances the peristaltic movement of the small intestine in man may be completely controlled by the administration of morphin. The possibility suggests itself that this may be accomplished when small doses are used rather by a suppression of the exciting cause of hyperperistalsis, such as some sensory irritation, with perhaps a blockade of the foodstuff in the stomach, than by the direct influence of the drug on the motor mechanism of the intestine. These investigations suggest the interesting practical questions: To how great an extent does the use of morphin previous to operation tend to favor the occurrence of acute dilatation of the stomach, and what is the action of anesthetics, like chloroform, on the movements of the gastrointestinal canal?

THE INFLUENCE OF SUBCUTANEOUS INJECTION OF LIVER EXTRACT UPON THE HEPATIC METABOLISM OF URIC ACID.—L. B. Stookey (*Jour. Med. Research*, 1906, XV., 321) in association with A. S. Granger has previously shown that the subcutaneous injection of liver extract (dog) may lead in the same animal to an increased elaboration of nitrogenous end products into urea, and that liver extracts heated to 55 deg. C. were not found to have this stimulating action. Attention was, therefore, directed to the possibility of an enzymotic formation of urea. These same studies were directed upon the hepatic metabolism of uric acid. Stookey reviews the literature bearing on the destruction of uric

acid by the animal organism, especially as regards the liver and other organs, and the dependence of destruction on the activity of an enzyme which has been called a "uricolytic ferment." Stookey made extracts from the liver of several dogs, then made daily injections of amounts varying from 10 to 50 c.c., and at the conclusion of each experiment the uricolytic power of the liver was determined by hashing the organ finely and estimating the amount of uric acid destroyed in a certain time. Control experiments were made on normal dogs. The results showed a noticeable increase in the uricolytic power of the liver of treated dogs over that of the normal animals.

THE TREATMENT OF ANGINA PECTORIS.—Weissbart (*Zentralbl. f. die gesammte Therapie*, 1907, XXV., 173).—Reports upon a preparation known as dyspnon, which is dispensed in tablets containing each $3\frac{3}{4}$ grains of theobromine sodiosalicylate, $1\frac{1}{2}$ grains of theobromine sodioacetate and $1\frac{1}{2}$ grains of extract of quebracho, as being of value in angina pectoris and allied conditions. He has used dyspnon in five patients. The first was an instance of syphilitic aortic insufficiency with coronary angina in which the anginoid attacks remained absent as long as the medication was continued. Good results also followed its use in an instance of stenocardia due to aortic and mitral insufficiency and in a patient suffering from arteriosclerosis with apoplectic seizures. Weissbart recommends the employment of this preparation in the cardiac asthma of endocarditis and arteriosclerosis. The usual dosage is two tablets three times daily.

SANTONIN.—S. Journet (*La quinzaine therap.*, 1907, VIII., 31) has studied the interesting question of the treatment of diabetes by means of santonin, and states that under its influence the glycosuria becomes rapidly diminished, the polyuria becomes lessened, the patient's strength is increased, and the thirst and the dryness of the mouth are ameliorated. Santonin also possesses a stimulant effect upon the nervous system as well as an antispasmodic action, and, in view of the important role played by this system in the genesis of diabetes, ought to diminish the glycogenic function of the liver. Santonin should be prescribed, just as are valerian, camphor and its bromide, and the various cyanides, in conditions in which we wish to lessen or prevent excessive muscular contraction and when we desire to restore to the nervous system its normal regulator action. Bircage considers that this drug possesses an analgesic effect in the lightning pains of tabes and that its feeble toxicity permits its continued administration.

SURGERY.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

RESULTS OF RADICAL OPERATIONS FOR THE CURE OF BREAST CARCINOMA.—Halsted (*Ann. of Surg.*, July, 1907).—The paper is in part statistical, but much space is given to a general consideration of the subject. Two hundred and ten traced cases, operated upon more than three years before, form the material for study. The percentage of cures (using the three year limit) was 42.3. Of the pathologic varieties the adenocarcinoma offered the best results, 75 per cent of the cases being cured; while large infiltrating scirrhous had only 20.5 per cent cures, and the small infiltrating scirrhous, which numbered the most cases, was hard to cope with, only 35.5 per cent being cured. In sixty-four cases no glandular involvement was discovered after the most careful search, yet in fifteen of these there was metastasis or recurrence of some sort sooner or later—in six, three years after operation. The percentage of cures for three years for this group was eighty-five. Of 110 cases with the axilla involved and a negative neck, there are 24 per cent cured. Of the group with the glands of the axilla and neck both involved, five cases remained well three years and thirty-four were not cured. The supraclavicular operation was urged in all cases with palpable operable neck involvement, or when the apex of the surgical axilla is involved. When mid-axillary involvement is demonstrated the neck is almost certainly involved and should be cleaned of all its lymphatics as high as the bifurcation of the carotid. The neck operation can be omitted in hopeless cases, in most "duct cancers" and in adenocarcinoma when axilla is uninvolved. The operation mortality in 232 cases was 1.7 per cent.

Halsted is convinced that cancer of the breast is but very rarely disseminated by blood vessels, but the growth is spread centrifugally along fascial planes, even reaching the bones by permeation, the bones involved being those beneath the surface involvement, the forearms and lower legs being practically free.

In operating on "cancer cysts" it is absolutely essential that the diagnosis be made on the operating table by the surgeon noting the barely thickened point, the slight lack of luster, the faintest difference in color and in texture, and his suspicions should be aroused by the presence of blood-stained fluid. If the cancer is diagnosed and a complete operation done upon these cysts the results are the best in breast surgery, but if a complete operation is not done until later the prognosis is hopeless.

As cases are coming to the surgeon earlier than ever before, the diagnosis of these earliest cases become a refinement which requires great care and precision and the cases must be studied longer and more carefully, and our suspicions aroused when there is the slightest limitation of the excursion of the skin over the breast with the nodule as compared with the healthier organ, and in suspicious cases exploratory incisions should be made not into the growth but down to it, and a diagnosis made from the fibrous appearance and shortening of the surrounding

trabeculæ. In scirrhus the disease may be active and metastasis occur long before the visible or palpable tumor is developed.

To close the breast wound more or less regularly by any plastic method is hazardous and should be vigorously discountenanced. Remove a large circle of skin and graft the defect if the wound cannot be closed. After incomplete operations the local manifestations of recurrence are almost invariably deplorable and the prognosis hopeless, and recurrences are relatively later when vigorous chemical caustic or actual cauterizing has been employed.

He is of the opinion that toxins are generated by the cancer and cause disseminated pains in knees, legs, arms and back which suggest cancerous involvement and that by removing the growth these pains are lessened. There is also a reactionary, boardlike edema of the pectoral region, occasioned by presence of an undemonstrable growth which is later followed by rapid cancer growth.

CARCINOMA OF THE BREAST.—Greenough, Simmons, Barney (*An. of Surg.*, July, 1907).—Out of 416 cases of primary operations for cancer of the breast at the Massachusetts Hospital from 1894 to 1903 inclusive, 376 were traced to a conclusive end result at an average period of eight years after operation. Sixty-four cases were alive and well and seven died without recurrence, over three years after operation. Counting in the operative mortality, there were 320 attempts at radical cure, sixty-seven of which, or 20.9 per cent, were successful. During this same period palliative operations were performed on fifty-six patients (15 per cent), and fifty-two cases were discharged untreated. Cases in which the tumor was ulcerated, or was adherent to the skin or to the chest wall, and cases in which the axillary glands were palpably enlarged, gave notably less promising results than when these conditions did not exist. No cases with palpably enlarged cancerous glands above the clavicle and no case of cancer of both breasts, was cured. Medullary carcinoma was more grave than that of the scirrhus type, and adenocarcinoma and colloid were relatively of a far less malignant type. The duration of the disease, other than in the individual case, exerted little influence on prognosis. Extensive operations with wide removal of the skin gave the greatest freedom from local recurrence. Removal of the pectoralis minor appeared to be of slight significance. Incomplete operations on early cases yielded better results than extensive operations in cases which were well advanced. Recurrence in the scar occurred in less than one-half of the cases. Internal metastasis was most frequent in the lungs, mediastinum, in the axillary and supraclavicular glands, the liver and the spine. Seventeen out of eighty-eight cases, or 19 per cent, of those passing the three year limit without evidence of recurrence showed recurrence later, and four cases developed recurrence six years or more after the operation.

END RESULTS FOLLOWING OPERATIONS FOR CARCINOMA OF THE BREAST.—Meyer (*Surg. Gyn. Obst.*, July, 1907).—The author's statistics for operations done over three years before are compiled from sixty-three cases. Of this number twenty-eight lived from three to 12½

years after the operation (44 per cent). In one case of this series death from diabetic coma followed the operation. The author's complete operation was performed, the axillary contents and both pectoral muscles being removed. He does not believe it desirable to clean out the supraclavicular space at the time of the first operation, as in none of the thirteen patients that remained well from five to 12½ years were the supraclavicular glands removed. Edema of the arm has been noted in about 10 per cent of the cases and was then of a transient nature, due to the cicatrix, but in only one case did it persist. The post-operative neuralgia or neuritis of the brachial plexus has been temporary in every instance. If the disease has reached the supraclavicular nodes, there is little hope, in the author's experience, for a longer freedom from recurrence, as every case operated upon died soon after. If the breast is involved in the upper two quadrants, particularly if it involves the skin, the infection of the supraclavicular glands may be expected. He does not believe, however, that radical operation should be refused unless metastasis forbid. Radical operation should not spare skin, and for this reason he does not accept plastic operations, and even doubtful cases, he believes, fare better by radical procedure than by an operation of less magnitude, or undue temporizing.

END RESULTS IN OPERATION FOR CANCER OF THE BREAST.—Dennis (*Surg. Gy. Obs.*, July, 1907).—Out of his large material 50 cases which passed the three-year limit were selected, but the author feels that this is much too short a limit to use to predict a permanent cure. By following all these cases after operation he shows that cancer of the breast is sometimes permanently cured, or at least 25 years have elapsed with no evidence of return; that cases may go as long as 18 years, and yet finally have a return in some other organ; that in the cases that had no return the operation was performed within six months from the incipency of the disease, thus showing the importance of early operation; that the more radical the operation within reasonable limits the better the prognosis. He believes that in some cases in which the outlook is most unfavorable, as manifested by extensive ulceration, hemorrhage and widespread axillary involvement, the end results have been entirely satisfactory.

CARCINOMA OF THE BREAST.—Cabot (*Ann. of Surg.*, July, 1907).—His report is based on 42 cases in private practice. Of these nine are alive today. One case 19 years, one case 14 years, one case 11 years and two cases 10 years, and one case each for 8, 7, 5 and 4 years. These non-recurrent cases were tumors of a mild type, 3 adenocarcinoma, 3 small scirrhus, 1 small plexiform medullary, 1 Paget's disease. In 6 of the cases granular involvement was not found. From studying this small series of cases the author believes that the question of recurrence depends more on the character of the growth and the degree of involvement of the lymphatics than on the thoroughness of removal, as in 7 of the 9 the muscles were not removed. However, he believes that this should not be used as an argument against extensive radical operations, for it is impossible to tell how far the cancer cells have gone at the time of operation. He notes one case of a small nodule, situated in the centre of the

gland, in which he spared the pectoral muscle, but it was in the muscle that recurrence occurred, and since that he has removed the muscle in all cases.

PRIMARY TYPHLITIS WITHOUT APPENDICITIS.—McWilliams (*An. of Surg.*, June, 1907).—The subject is considered through the views of many authors, and one case is added by McWilliams. He believes that primary acute and chronic typhlitis occurs independently of appendicitis, dysentery, tuberculosis, or cancer, and is idiopathic in origin, or depends on coprostasis; that primary typhlitis, the appendix being normal, may lead to perforation, with the formation of typhlitis abscess, or general peritonitis. The symptoms of primary typhlitis are usually identical with those of appendicitis and indications for operation are similar in the two conditions. Primary typhlitis cases are rare in comparison with the frequency of appendicitis. The recurrence of symptoms after removal of the appendix may be due to attacks of typhlitis, the treatment for which consists in the regulation of the diet and use of oil enemata. The danger of primary typhlitis consists in the liability to the rupture of an ulcer and to the development of appendicitis. The treatment consists in removal of the appendix, closure of any cecal perforation, with drainage of the abdomen, and he recommends the removal of a portion of the cecal wall for microscopic study, if that is necessary to establish the diagnosis.

ORTHOPEDIC SURGERY.

IN CHARGE OF
NATHANIEL ALLISON, M. D.

THE PREVENTION OF DEFORMITY AFTER INFANTILE PARALYSIS BY RECUMBENCY DURING THE STAGE OF RECESSION.—Judson (*Providence Med. Jour.*, Sept. 1, 1907).—In the ever changing treatment of disease, the influence of environment is receiving unusual attention. In the treatment of infantile paralysis, the author proposes a method which relies exclusively on the influences of environment and the lapse of time. As soon as the disease is recognized, he would limit the patient to a recumbent position, till the period of recession of the paralysis has passed, which takes, as a rule, several months. As arguments in favor of this belief, he calls attention to the fact that the ill effects of joint disease are seen more commonly in the lower extremities than in the upper; that the arms are free while the legs bear the weight of the body; and that in joint disease, where the environment of the lower extremities has been reformed, there is improvement in the condition. Recumbency gives to all parts the same environment, and in this form of paralysis will lower the disproportion of eight to one that now exists between the upper and lower limbs. This is not proved, but he believes can be readily demonstrated. Passive motion, resistance exercises, electricity, massage, local applications and judicious

medication should be continued. They cannot interfere with the treatment proposed, and their observance may make it easier persistently to maintain recumbency, the most important agent of all.

RESULTS OF TREATMENT OF ACQUIRED AND CONGENITAL TORTICOLLIS AT THE BOSTON CHILDREN'S HOSPITAL SINCE 1879.—Bradford & Seaver (*Boston Med. & Surg. Jl.*, Aug. 22, 1907).—The conclusions reached in this paper are based upon an experience gained in the last twenty-eight years at the Boston Children's Hospital. The term "torticollis," designating the condition in which the deviation of the head results from a contraction chiefly of the sterno-mastoid muscle, and not those conditions of wry-neck which arise from spinal caries, inflamed glands, etc. The authors conclude that congenital or acquired muscular torticollis may be cured. That an open incision, with complete division of the two heads of origin of the sternocleidomastoid muscle, is all that is necessary, except in unusual cases. That the horizontal incision below the clavicle is the best to use, in that it gives adequate room and also gives the best cosmetic results. That plaster of paris is the best dressing to hold the head in the corrected position. That the plaster dressing should not be worn longer than two months. That the Buckminster-Brown brace, Thomas collar, or wire-collar, should be worn for an average of four months following the removal of the plaster dressing. That it is best to operate on patients between the ages of two and twelve years, to insure a good result and prevent bony deformity of the face and head.

CAUSES AND CHARACTERISTICS OF WEAK FOOT.—Whitman (*Med. Record*, Aug. 31, 1907).—Notwithstanding the fact that flat foot has been analyzed and described by several anatomists, the importance of weak foot, which is the most common and most disabling of all postural deformities, has been unsuspected in the absence of pain. There are two postures of the foot, the position of activity and that of inactivity. In activity the foot is curved inwards at its inner border, and the arch is accentuated. In inactivity the foot is everted, and the body weight is directed towards the inside of the sole. The deformity of weak foot is an exaggeration and continuation of the attitude of inactivity. First, there is abduction, which is followed by a lowering of the arch. Symptoms are not due to deformity as such, and have no proportionate relation to its degree. Congenital or acquired abnormality may cause a predisposition to this condition. Deficient power, weakness of muscles, over-weight or over-strain, and improper attitude, the most important of which is toeing outwards, are the principal factors. Improper footwear is an important factor. The symptoms are faulty attitude, impaired function, sensation of weakness, of tire and strain along the inner border of the foot and beneath the arch. Pain in the heel is often prominent. The discomfort may extend to the calves, knees, and, especially in women, to the back. Children should be taught proper attitudes in walking and standing as preventives.

The author strongly recommends the form of brace which bears his name, as a proper corrective appliance.

THE TREATMENT OF SCOLIOSIS BY THE CREEPING METHOD.—Klapp (*Zeitschr. f. Orth. Chir.*, Bd. XVI., Heft. 1-2).—The author's method of treatment is based on the gait of quadrupeds. In this gait, at one stage the extremities are approximated on one side and separated on the other. When a step forward is taken, the order is reversed. The spine, instead of remaining immovable, curves away from the side on which the extremities are approximated. Such movements of the shoulder and pelvic girdles afford a powerful means of untwisting the scoliotic spine. It is not difficult for children to learn the creeping exercises. The younger they are, the easier it is taken up. For older and rigid cases, the natural method is not sufficient, and in these the author employs three modifications: the rapid performance of movements, forced movements slowly carried out, and movements without progression, in which the effort is made to stretch the curve in the spine, draw in the projecting, and throw out the depressed ribs, which can be accomplished by forced rotation of the thorax, or of the entire trunk. He discusses the greater efficiency of such exercises in the horizontal position, and regards two hours a day as the shortest time which should be devoted to gymnastic exercises.

CONGENITAL COXA VALGA.—Drehmann (*Zeitschr. f. Orth. Chir.*, Bd. XVI., Heft. 1-2).—The author reports two instances of infants six months old, where there was noticed shortly after birth a peculiar attitude of the legs, which were bent at the knees and hips. A skiagram of one showed no bend in the neck of the femur. Another instance in a girl of five years, where walking was learned slowly, and there was great muscular weakness. She could raise herself from the recumbent position only with great difficulty, and it was impossible to flex the extended limb on the body.

PATHOLOGY OF COXITIS.—Werndorff (*Zeitschr. f. Orth. Chir.*, Bd. XVI., Heft. 1-2).—The examination of diseased hips by the x-ray gives important data in the diagnosis, as it assures the early recognition of the synovial form, and the presence of foci. It aids the prognosis, as it makes it possible to observe the progress of cartilaginous changes, the form, the size, the localization of foci, and indicates the possible danger of the focus perforating into the joint cavity. Skiagraphy also aids treatment, as it shows where to operate. The author says: "Will it not influence our therapeutic measures, when on the one hand we observe a gradual, but constantly increasing destruction by the synovial form, while on the other we see isolated foci lasting over half a year without the slightest change? If we only knew whether we ought to operate, and whether we ought not to operate! The early diagnosis by means of the x-ray, and the study of serial exposures may, perhaps, some day give us the answer."

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

TUMORS OF THE BLADDER FROM A MODERN ASPECT.—Kolischer and Schmidt (*Il. Amer. Med. Assn.*, July 27th, 1907).—Operative interference in tumors of the bladder is not at the present time conducted in a uniform manner, nor is it based on any generally accepted rules, as is the case in other domains of surgery. Each operator has notions and fancies of his own and operates accordingly, employing in many instances methods, which, if applied in other branches of surgery, would bring ridicule on his head. One essential principle is apparent; benign tumors should be approached from the inside, malignant tumors from the outside of the bladder. The intrinsic qualities of a benign tumor are such that it is manifestly sufficient if its mucosa, submucosa and pedicle alone be removed; it is not necessary, in operating on such a tumor, to go through the entire thickness of the bladder wall and resect all its layers. In approaching benign tumors from the inside of the bladder, two methods are at hand: one, the endovesical, through an operative cystoscope; the other through an incision in the viscus, which renders accessible the implantation of the growth. In the former method after a proper dilatation of the bladder, the operative cystoscope is introduced, and the tumor removed with the galvanocautic snare. Then, if deemed necessary, the stump of the pedicle is again cauterized with a straight, solid galvanocautery. The severed tumor either is picked up by forceps introduced through the cystoscope, or, after removal of the cystoscope, is pumped out through an evacuator. In case of a large tumor it may be removed piecemeal by the same means. The writers prefer the direct view instrument, except in cases where the tumor is located in the vertex of the bladder.

The other method for the removal of a benign tumor involves its bloody execution after the bladder has been opened by an incision. The anterior aspect of the bladder should be freely exposed in order to gain space for a generous incision. The bladder wall is caught by a few sutures, which are used later on as guy ropes. The tumor and its face are brought into full view and made easily accessible, either by catching the base of the bladder with sutures, or by having an assistant make pressure from the rectum or the vagina, as the case may be, and thus force the base and fundus of the bladder upward. Sutures are now run beneath the insertion of the tumor and are promptly tied, one by one, in the path of the operator as he is excising the base of the growth. This detail in technique prevents the hemorrhage which otherwise would flood the field of operation and necessitate extensive sponging and continual hunting for the excision wounds, and thus avoid a traumatism of the mucosa, which might interfere with the prompt and complete closing of the bladder. Care should be taken not to grasp the tumor with the fingers or forceps, since, as a rule, such growths are very friable and are apt to bleed profusely when crushed or torn. If the tumor be located close to the vesical portion of one of the ureters, one end of a ureteral

catheter is run a few inches up into the ureter, previous to the insertion of the preventive stitches and the other end is led out through the internal orifice of the urethra and thence outside by way of the urethra. Should some of the preventive sutures encircle the vesical end of the ureter, the catheter would be found engaged. In this case it is simply left in place for a week or so, until the healing process has progressed sufficiently and then withdrawn. After the main tumor has been removed, the entire inner surface of the bladder should be inspected to discover any smaller size papillomata, should such be present. Particular attention should be paid to the parts opposite the main tumor.

After removal of the tumor, the bladder is closed by two layers of sutures, the closed viscus suspended to the abdominal wall to exclude any dead spaces and the incision closed without drainage. In cases of malignant tumor, after freely exposing the bladder and opening it as close to the site of the tumor as is compatible with surgical demands, the growth is removed, with the section of the entire thickness of the bladder wall to which it is attached. This resection, in case it does not involve more than one-third of the bladder, should be followed by total suturing of the viscus. After the organ is closed, a cigarette drain is run down to the deepest point of the bed of the wound, the bladder is suspended to the abdominal wall and all closed up, save for the point of drainage. The permanent catheter should never be employed in cases of partial resection and subsequent complete suturing of the bladder; if necessary the patient is catheterized at appropriate intervals. Should the tumor involve a ureteral opening, the bladder is dissected out to such an extent, that not only complete excision of the tumor base becomes possible, but also the vesical end of the ureter is laid bare. The ureter is clipped off at its insertion into the bladder and then the exsection of the tumor base, including the ureteral mouth, is accomplished. The stump of the ureter is now re-implanted into the upper end of the excision wound, after one of the standard methods, and the wound closed as completely as is feasible. In those cases in which a radical operation is no longer possible, there are two methods of relieving the patient's suffering. One method is to open the bladder from above and cauterize the exulcerated surfaces with a Paquelin. As a rule this intervention does not benefit the patient to any great extent. The other method, which furnishes more satisfactory results, consists of establishing permanent kidney fistulæ, and thus diverting the urine from the bladder. The authors conclude as follows:

1. All benign tumors of the bladder should be approached from the inside, all malign tumors from the outside of the viscus.

2. In all malign cases in which the loss of substance is not too great the bladder should be closed completely by sutures after the removal of the tumor.

3. In cases of malign tumor the incision into the bladder should be made in accordance with the location of the growth, as defined by the cystoscope.

4. The permanent catheter should be absolutely abolished.

5. Gas anesthesia should be employed exclusively.

6. A constant cystoscopic surveillance should be maintained over any bladder that has ever been operated on for tumor.

CONCERNING A DISTINCT TYPE OF HYPERNEPHROMA OF THE KIDNEY WHICH SIMULATES VARIOUS CYSTIC CONDITIONS OF THAT ORGAN.—Weil (*Ann. Surg.*, Sept. 1907).—The author refers to a type of hypernephroma which differs from the typical cystic hypernephroma in that the latter never breaks down to form single large cystic tumors, but simply contains cyst cavities in the mass of the growth. He has collected and presents the reports of the five cases which have appeared in the literature since 1883, in addition to one personal observation. Peculiar to the cyst-hypernephroma are the clinical signs of a cystic instead of a solid tumor of the abdomen, the prolonged period of growth and the character of the hematuria, the absence of very late occurrences of metastases and the presence of pressure symptoms from the stomach or other abdominal viscera, due to the large size of the cystic growth. This group of symptoms, if at all constant, would seem a sufficiently characteristic syndrome. The character of the urine is determined by the anatomical relations of the tumor. Differentiation from other abdominal cysts depends largely upon the presence or absence of hematuria. In the latter cases the differentiation from ovarian and other forms of cysts must be made from the location, the relation to the colon and other criteria upon which reliance is generally placed. In the former group of cases, the presence of hematuria, combined with the cystoscopic findings, reveals the renal origin of the tumor. In this case the differential diagnosis must concern itself with all other cysts or cyst-like dilatations of the kidney or pelvis associated with hematuria. If certain salient characters of cyst-hypernephromata, their prolonged course, their comparatively benign character, the absence of colic, their characteristic content of blood and cholestrin be kept in mind, the diagnosis will rarely present great difficulties. Removal is generally a simple matter and offers a radical cure. This course should, therefore, be followed in every case in which the operation is not contraindicated by the age or condition of the patient. Drainage or repeated tapping should never be resorted to.

MOBILE KIDNEY, WITH A DESCRIPTION OF AN OPERATION FOR ANTERIOR NEPHROPEXY.—Bishop (*Lancet*, Aug. 3, 1907).—The writer's operation is an attempt to form a sort of a pouch, the walls of which are adherent to the kidney, to retain it in normal position. His technique is as follows: After the kidney region is exposed, through an anterior incision, a transverse incision is made through the posterior parietal peritoneum over the lower fourth of the kidney, the two peritoneal flaps being held apart, a curved incision, concaved upwards and outwards, is made through the kidney capsule and the lower segment of this loosened from the anterior renal surface down to its inner and lower extremity, turned downward and attached by two or three sutures to the fascia beneath. The peritoneum is now sewn up with catgut, bringing its lower flap in contact with the raw anterior surface of the kidney. The organ is now held in position, while with long straight needles a row of sutures are placed below the kidney, beginning immediately below the ureteric insertion and carried to the outer and inferior angle of the kidney. These sutures pass entirely through the posterior parietes and are tied over the muscles of the back, an incision being made through the skin for this purpose.

THE EXTENSION OF THE FIELD OF TREATMENT OF CERTAIN RENAL AND VESICAL CONDITIONS THAT IS MADE AVAILABLE BY A NEW CONTRIVANCE FOR LONG CONTINUED DRAINAGE OF THE KIDNEYS THROUGH RENAL FISTULA IN THE LOIN.—Watson (*Ann. Surg.*, Sept., 1907).—The writer proposes the simultaneous performance of bilateral nephrostomy, tying off both ureters at the same time and establishing permanent renal fistulae, thus diverting the entrance of all urine into the bladder, for the following purposes: As a palliative measure, in cases of inoperable vesical tumor and in cases of vesical tuberculosis originating in descending infection, in which both kidneys are involved and when the tuberculous lesions of the bladder are causing suffering, and as a preliminary step to the total extirpation of the bladder in certain cases of vesical tumor. The contrivance described by the writer to maintain efficient drainage and do away with the disagreeable features of urinary fistulae, consists of a hard rubber cup-shaped shield, through which the tube that enters and drains the kidney is passed, a light metal receptacle into which the urine is conveyed, a rubber tube attached to the bottom of the receptacle by means of which it may be emptied and elastic bands to pass around the body and hold the contrivance in place. The receptacle is replaced at night by long tubes which drain the kidneys directly into a bottle at the side of the bed. The writer has used this device in two cases with entire success.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF
HUGO EHRENFEST, M. D.

SUBCUTANEOUS HEBOTOMY (Pubiotomy).—Kannegiesser (*Archiv f. Gynaek.*, Bd. 81 H. 3).—In this very interesting paper a resume is given of the results obtained in Professor Leopold's clinic, in Dresden, in a second series of 30 pubiotomies performed within the last 15 months. In comparison with the 21 cases of the first series the fact is noteworthy that in the second series all mothers and all children were discharged from the hospital well, while of the first series four of the children were lost, although all the mothers had recovered. In all cases the patient, immediately after the os pubis was divided, had been delivered, thus in the total number of 51 operations forceps was applied 28 times, version and extraction performed 20 times. In one case craniotomy became necessary, in two cases of foot-presentation the fetus was simply extracted. Of special interest are six cases in which a labor was observed subsequent to a pubiotomy. In these six cases the next baby was born spontaneously once, in one case version, in another a Cæsarian section had to be performed; in the remaining three cases the babies were born prematurely, twice due to operative intervention for this purpose.

USE OF A VENTRAL BANDAGE DURING LABOR.—Vallee (*Annal. des Sc. Med. de Lille*, rev. *Am. Jour. of Obst.*, August, 1907).—The author describes a method of assisting labor by the use of a bandage

placed around the abdomen of the patient so as to exercise a firm compression on the uterus from the beginning of true labor pains until delivery. With this is combined the horizontal position of the patient in bed from the beginning of labor. As the fetus escapes from the pressure of the bandage in the last stage of labor, the hands of the assistant exert pressure following down the body of the child. The uterine contractions become regular, strong and frequent from the time of application of the bandage. The bag of waters is kept intact, and presses down through the cervix, which is directed into the center of the pelvic canal by the rectified position of the uterus. Thus the bag of waters exercises its normal dilating force in the right direction and is most efficient. The patient suffers much less than usual, and is less fatigued by the labor. No bad effects upon the infant are observed. Labor is much hastened and ends in a few hours. The placenta is delivered quickly with little hemorrhage, and no clots are found in the vagina. The method has been successful with all presentations.

THE TIME OF LEAVING BED AFTER NORMAL LABOR.—Bouchacourt (*Presse Medicale*, rev. *Jour. Am. Assoc.*, Sept. 7, 1907).—The author reviews the disadvantages and advantages of the puerperal woman leaving the bed early after a normal labor. The dangers in the main are infection, arrest of involution of the uterus, danger of uterine displacement, of embolism, and finally the danger of ptosis. Only the last mentioned really need be considered. All the authors who recommend leaving the bed early insist upon the use of a proper abdominal bandage. Infection can be avoided. Early leaving of the childbed, indeed, seems to hasten the involution of the uterus, and to lessen the danger of a displacement. Of course, sudden movements may lead to embolism, but Kuestner, in his very extensive experimental researches, did not meet with a single instance of embolism. Among the advantages of a short stay in bed are a favorable influence upon digestion, circulation and urinary function, and the promotion of milk secretion.

Bouchacourt advises considerable freedom of movements while the woman is in bed. Gymnastics and passive movements are advised by some authors. The length of stay in bed should be suited to the character and social station of the patient and the gravity of the case, from one to two weeks being sufficient in normal cases.

ABORTION CAUSED BY X RAYS.—Fraenkel (*Zentralbl. f. Gyn.*, No. 31, 1907).—By means of experiments on animals Fraenkel was able to further support the claim of Fellner and Neumann that x rays cause distinct degenerative processes in the ovaries, and in pregnant animals result in a retarded growth of the ovum. While Fellner and Neumann hold the production of leucotoxines responsible for the detrimental influence upon the pregnancy, Fraenkel believes that this harmful effect is caused by the degenerative processes in the ovaries. Similar is the effect of an exposure of the thyroid gland to the x rays. These results encouraged Fraenkel to use x rays as a means of producing artificial abortion.

Interruption of a pregnancy of three months seemed indicated in the case of a young woman in whom a pulmonary tuberculosis, immediately

after impregnation, rapidly began to grow worse. The author applied the x rays to both ovaries and to the thyroid gland. By protecting the rest of the abdomen with a lead plate he tried carefully to limit the effect of the rays to the ovaries. Twenty-five exposures were made, lasting from five to ten minutes, every other day the thyroid being exposed. After a short labor the ovum was expelled *in toto*.

Although the writer is convinced that the abortion was the result of the ovarian changes, he cannot deny that possibly a direct harmful influence is exerted by the rays upon the fetus. He also states that at times during the exposure the patient would complain of a cramping pain, probably caused by a uterine contraction, or would involuntarily void urine, indicating a contraction of the bladder. Of course fear, as a psychic effect of the procedure, may have played a role in the causation of these two phenomena.

The writer also mentions three cases in which marked disturbances of menstruation appeared in women in whom the thyroid gland was exposed to the x rays on account of a struma. In two patients menstruation was delayed and extremely scanty, in a third amenorrhea resulted. [Similar observations have been recorded by Lengfellner (*Muenchn. Med. Woch.*, No. 44, 1906), as the result of Roentgenisation of the pelvis for the purpose of obtaining photographic pictures.—ED.]

PEDIATRICS.

IN CHARGE OF
ALFRED FRIEDLANDER, M. D.

PSEUDOMASTURBATION IN INFANTS.—Rachford (*Arch. of Ped.*, August, 1907) contributes a valuable statistical study with a collection of hitherto unreported cases.

Pseudomasturbation is a syndrome occurring in infancy and early childhood, which has also been described as thigh-friction and infantile masturbation. The child lies on its back; the thighs are flexed, crossed and pressed tightly together, closely embracing the external genitalia. In this position the infant makes a wriggling or up and down body movement and rubs its thighs together. In other instances the genitalia are rubbed with the hands or feet against some piece of furniture or other foreign object. These movements are apparently attended by pleasurable excitement; the face is flushed, and there is a marked increase in the general nervous tension. Following this act, which continues for a few minutes only, there is general relaxation, accompanied for a few minutes by mild perspiration, quiet contentment and in some instances sleep. The average age of the onset of this neurosis in the cases presented in the author's table is 16 months, though the condition may occur as early as the 4th month. The vast majority of all cases occur in female infants; thus of the 52 collected cases, 48 occurred in female and

4 in male infants. The explanation offered by the author for this is that irritations of the genitalia are much more apt to be overlooked in the female than in the male child, while in addition it is noteworthy that the clitoris is more exposed to external irritants in infancy than in childhood, because of the comparative lack of development of the labia which later enfold it. The habit, which is formed by the practice of pseudomasturbation, becomes, after a time, one of its most potent causal factors. Heredity is an all-important factor, as in fully three-fourths of the cases there is a distinct neurotic inheritance. A gouty inheritance may also predispose to this condition by producing in infants the tendency to periodic attacks of acid urine. Illness, and especially malnutrition, greatly increase the irritability of the nervous system of the young, and in this way may be factors in starting or in prolonging this habit. Among the direct causes are those which produce irritation about the genitalia. Thus an acid condition of the urine occurs in more than one-third of the cases published. Constipation, and on the other hand colitis, may be other causes. Diseases of the rectum, pin worms, tight and irritating clothing, and uncleanness of the genitalia, are also causes. The prognosis is very good, though the period of time required is long. The average of the cases reported was 19 months. There is practically no connection between the pseudomasturbation in infancy and true masturbation in later life. The essential part of the treatment consists in the interruption of the habit as soon as possible, and in the immediate removal of all causes of irritation. Constant watchfulness is an essential. The child should be kept in a sitting posture as much at a time as possible. In some cases, forcible restraint may be necessary.

So far as general measures are concerned, the author lays great stress upon the relieving of acid conditions of the urine. For this, benzoate of soda and tincture of belladonna may be employed in appropriate doses. Older children, in whom the practice is apt to occur at night, may often be helped by the use of bromide of potash and belladonna given at bed-time. It must be remembered, however, that these cases must often be watched over a period of years to prevent a recurrence of the habit, even after it has temporarily disappeared.

ENLARGEMENT OF THE EPITROCHLEAR AND OTHER LYMPHNODES IN INFANTS.—Hess (*Arch. of Ped.*, Aug. 1907) has examined 225 infants with reference to enlargement of the superficial lymphnodes. The vast majority of the children examined (and the series was made up of routine dispensary cases) showed enlargement of certain groups of glands. Thus in 197 cases in which the posterior cervical glands were searched for, they were found 173 times. The group involved next in frequency was the inguinal, being found enlarged in 119 cases out of 147 examined. Three hundred cases were examined with particular reference to enlargement of the epitrochlear glands. Minute bilaterally enlarged glands were found to be very common. Small bilaterally large glands were found in 26 cases, representing a great variety of diseases, and including only 3 cases of syphilis. Large bilaterally enlarged glands were found in 15 cases of the 300, and 6 of these cases were syphilitic, with the possibility that syphilis played a role in 3 of the others. The author is of the opinion that in view of the rarity of marked bilateral enlargement of

the epitrochlears in children, and in view of the fact that in the preponderance of the positive cases there was evidence of syphilis, this may be an important diagnostic point. It is noteworthy that in older children enlargement of the epitrochlear is not necessarily a syphilitic sign. While the absence of such epitrochlear enlargement in infancy does not negate the diagnosis of syphilis, its presence may offer valuable diagnostic evidence.

EPILEPTIC DEMENTIA IN CHILDHOOD AND ADOLESCENCE.—Voisin (*Rev. Mens des Mal de L'Enf.*, Aug. 1907) says that dementia is a common termination of certain forms of convulsive epilepsy; that it may manifest itself in childhood, but more often in adolescence. Coming on in early childhood it prevents mental development of the child, and constitutes acquired epileptic idiocy. Coming on in later childhood or in adolescence, it may or may not be accompanied by phenomena of spasmodicity. In the latter case it may lead to so-called dementia precox in one of its several varieties. Its course may be slow or very rapid; in rare cases general paralysis may cause dementia in young epileptics. While the spasmodic dementia appears to occur directly in the evolution of epilepsy, epileptic dementia precox seems to be a degenerative process, and the epilepsy itself does not play so direct a role in its production.

THE TEMPERATURE OF NURSRLINGS.—Nobecourt and Merklen (*Rev. Mens des Mal de L'Enf.*, Aug. 1907) have studied a series of cases to determine the normal temperature curve in nursrlings. They find that the infant does not present the line of variation commonly seen in the adult, even in health. The infant has a monothermal temperature, with little variation in the morning and evening. This monothermal temperature is constantly found in normal infants at least up to the fifth month in life. Interference with this regular line betokens always a pathological condition.

STATISTICAL STUDY OF WHOOPING COUGH AT BRETONNEAU HOSPITAL, Paris.—(*These de Paris*, 1907; *Rev. Mens*, Aug. 1907).—The prognosis of whooping cough in the hospital is very serious on account of the great danger of grave complications, from which no patient in the hospital is safe. Cases of so-called hyper-pertussis, with seventy or eighty paroxysms in the day, are very rare under proper treatment, but the danger of pulmonary complications is still very great. Mortality in this hospital ranges from 15 per cent to 20 per cent. The author is of the opinion that cases of whooping cough ought to be strictly isolated, even in the hospital, and that there should be no such thing as a whooping cough ward.

NEUROLOGY.

IN CHARGE OF
SIDNEY I. SCHWAB, M. D.

THE FUNCTIONS OF THE TRIGEMINAL NERVE.—Davies (*Brain*, No. 118, 1907).—An extended abstract of this paper would be necessary to do it justice. It is mentioned in this department because it illustrates the scientific use of post operative material towards the elucidation of physiological problems. The material made use of consisted of the personal examination of thirty cases in which the Gasserian ganglion had been removed; the use of notes and further communication in twenty other cases; experimental evidence on animals made by Victor Horsley. The subject matter has been collected under the following headings: 1. Distribution of the fifth nerve to the skin of the face. 2. Distribution to the external auditory meatus, and the membrana tympani. 3. Distribution to the mucous membranes. 4. Distribution to the deep structures. 5. Distribution to the organs of special sense. 6. Motor distribution. The results of these observations are arranged in a table which renders them easy for reference. This paper may be regarded as a final paper on the sensory results of removal of the Gasserian ganglion as far as the present methods in vogue in sensory examinations make possible.

THE TRIAL OF THE INSANE FOR CRIME; A HISTORICAL RETROSPECT.—Lloyd (*Amer. Jl. Insanity*, July, 1907).—Attention should be called to this scholarly article for the light it throws on the historical development of insanity as a defense for crime. Lloyd shows that the development of the rights of the accused has been a very steadily increasing one, and that perhaps there has been too much of a tendency to depart from the old common law attitude which in its extremest fashion denied to certain sorts of criminals the right of counsel. He closes his paper as follows: "It is well perhaps for the modern reader in his complacency to reflect that in the present day we may have gone to the other extreme. Some one ought to write a treatise on the abuses of the legal art of defense. Certainly we see today the prisoner and his counsel allowed every latitude. Every loophole of escape is opened to him. Irrelevant testimony, technicalities, insanity dodges, appeals to popular prejudices and by-plays to the jury now consume days in the trial of a case in which the issue is so simple that under the old common law when courts sat all night and juries were not allowed meat, drink or fire, the prisoner could have been convicted between sunrise and sunrise."

LANDRY'S PARALYSIS.—Sheppard Hall (*Review Neurology Psychiatry*, August, 1907).—The case concerns a boy of 17. The clinical aspect of the case corresponds well with the description given by Landry for his original case. The coincident appearance of symptoms in both extremities at the same time are regarded as especially characteristic. The following points were especially noted: The excessive pressure of the cerebrospinal fluid. The increased number of red and white cells and

the decrease of the eosinophilous cells. The presence of an organism in the spinal fluid, its reaction to various fluids and its vitality.

AMBULATORY AUTOMATISM.—Patrick (*Jl. Mental and Nerv. Dis.*, June, 1907).—In this president's address before the American Neurological Association, Patrick gives a comprehensive survey of this interesting subject, and notes certain conclusions of his own which are of importance. By the term ambulatory automatism is understood a pathological syndrome appearing in the form of intermittent attacks during which the patient, carried away by an irresistible impulse, leaves his home and makes an excursion or journey justified by no reasonable motive. The attack ended, the subject unexpectedly finds himself on an unknown road or in a strange town. He returns home, but sooner or later a new attack provokes a new escapade. This definition is given by Pitres, but it is necessary to modify in some particulars. The patient is frequently totally unconscious of what has happened to him in the meantime and further he usually acts in a strictly normal way during the period of his wandering. In its widest sense the disturbance occurs in the course of a very diversified number of diseases and in a small number of instances it is undoubtedly a part of a degenerate condition. Certain neuropaths, for example, are inveterate wanderers, victims of an almost constant ambulatory or traveling obsession. Between all the groups of conscious errants and the ambulatory automaton there is some sort of relation. A consideration of the author's own cases and the reported instances of this condition has impressed him with the importance of another element in the causation of flights. This is the inherent tendency of the patient to run away from trouble. Patrick describes a number of cases to illustrate these remarks, and gives in addition a critical resume of the important literature. The paper forms a valuable addition to what we know on this subject.

OPHTHALMOLOGY.

IN CHARGE OF
JOHN GREEN, JR., M. D.

HARD CHANCRE OF THE CONJUNCTIVA.—Aubineau (*Ann. d'Oculist.*, July, 1907).—A married woman, 22 years of age, presented a yellowish-white adherent membrane occupying the central part of the palpebral conjunctiva. The preauricular gland was enlarged to the size of an almond. The exudation next invaded the cul-de-sac and ocular conjunctiva, the lower lid began to swell and the submaxillary glands became enlarged. Later the lesion assumed the aspect of a shallow ulcer with irregular margin. Scrapings from the ulcer treated by the Proca-Vasilescu plan showed the spirochætæ stained an intense violet, contrasting with the pale violet of the rest of the specimen. The pa-

tient later developed an infiltration of the cornea, and a syphilitic eruption made its appearance on the skin.

Aubineau states that the primordial signs of chancre of the conjunctiva are (1) local induration and (2) adenitis. The former is a late sign and hence less important for the early diagnosis than the latter. When the lesion assumes an ulcerative character, however, induration becomes the more important diagnostically. In the present case the discovery of the spirochætæ led to recognition of the nature of the conjunctival lesion before the appearance of the secondary symptoms.

ON A NEW WAY OF DIAGNOSING TUBERCULOSIS IN MAN BY THE OPHTHALMO-REACTION OF TUBERCULINE.—Calmette (*Gaz. des Hopitaux*, June 25, 1907).—Calmette instils into the conjunctiva a solution of dry tuberculine, precipitated by alcohol at 95 degrees, in distilled and sterilized water. The liquid, which must be fresh, has a strength of 1 per cent. When this solution is dropped into the eye of a healthy subject no reaction follows. Those who suffer from tuberculosis, however, present a very definite local reaction, now known as the "Ophthalmic-reaction of Calmette." Thus, three to five hours after the liquid has been placed in the eye there is obvious congestion of the palpebral conjunctiva which becomes of a lively red color and the seat of a more or less intense edema. It is accompanied by lachrymation. At the end of six hours filaments of fibrinous secretion may be seen in the conjunctival cul-de-sac. The reaction attains its maximum in from six to seven hours. It disappears after sixteen hours in the child and after from twenty-four to thirty-six hours in the adult. The experiment produces no pain and but trifling discomfort.

THE EARLY DIAGNOSIS OF TUBERCULOSIS BY THE OPHTHALMO-REACTION.—Prouff (*Gaz. des Hopitaux*, August 8, 1907) made seventy instillations by this method and every known tuberculous subject showed the reaction, with the exception of one who was moribund. Newly born children are exempt or almost exempt from tuberculosis, and Prouff failed to excite conjunctival reaction by dropping tuberculine into the eyes of six babies one day to one month old. Prouff concludes that the reaction occurs in every tuberculous patient.

ON THE EARLY RECOGNITION OF TUBERCULOSIS BY THE TUBERCULINE OPHTHALMO-REACTION.—Calmette (*Gaz. des Hopitaux*, August 8th, 1907).—In his last communication Calmette claims the ophthalmic-reaction allows one to establish with precision the diagnosis of tuberculosis in doubtful cases. Since the publication of his first note, Calmette and his pupils have employed tuberculine on a large scale and more than a thousand trials have been made by hospital physicians in Paris and the provinces. All observations go to prove that the ophthalmic-reaction can be obtained in all forms of tuberculosis unless the patient is moribund, or almost so. Newly born babies fail to show the reaction. The application is inoffensive on condition that the non-glycerized preparation is employed. It is capable of rendering great clinical service in the recog-

dition of the most varied forms of tuberculosis and should be looked upon as simple, trustworthy and harmless.

PURULENT CONJUNCTIVITIS IN A BABY BORN AFTER CÆSAREAN SECTION.—Terson (*Ann d'Oculist*, July, 1907).—The section was performed at term without accident. As soon as the baby's head appeared in the uterine incision, it was noticed that the eyes were red, swollen, and secreting. Terson saw the case soon after the operation and found that the baby was affected with a very intense purulent ophthalmia of both eyes. By treatment with silver nitrate and permanganate the disease was cured in about ten days without corneal complication. The organisms found were statphylococci, together with an organism resembling the micrococcus tetragenus.

OTOLOGY AND LARYNGOLOGY.

IN CHARGE OF
W. E. SAUER, M. D.

THE PREVENTION OF DEAFNESS.—Scheppegrell (*Med. Rec.*, Sept. 7, 1907).—According to the author, by far the greater number of diseases which affect the hearing owe their origin to a pathological condition in the nose or nasopharynx, the point of entry being the eustachian tube. When the lining membrane of this tube is inflamed or congested, or blocked with secretion, the equipoise of the drum is disturbed, due to the unequal atmospheric pressure, and the hearing is diminished in proportion, and when this is continued for a long time the hearing is injured permanently. In children the condition is due most frequently to hypertrophy of the pharyngeal tonsil (adenoids) and even though the breathing is not interfered with, the effect on the hearing is marked, and therefore calls for prompt surgical relief. Suppurative inflammation of the middle ear is a frequent cause of deafness, and as soon as pressure against the drum is observed, a free incision should be made; the natural bursting through the drum destroys more tissue and may leave a noticeable defect in hearing. Nasopharyngeal catarrh is an important factor in the development of ear diseases, and should not be neglected. All forms of nasal disease or abnormalities are a source of danger to the ear, especially the purulent forms of children, and the dangers should be explained to parents. Nasal obstructions, whether due to septal deformities, tumors or hypertrophies, tend to create diseases of the ear and the obstruction should be removed. Scarletina, measles, etc., may cause a destruction of hearing if neglected; but if taken care of in time, a cure can be effected in nearly every case.

The author concludes by saying, that it should become the duty of school boards to have a competent physician test the hearing of school children, especially in the public schools.

A SIMPLE AND SAFE OPERATION ON THE FRONTAL SINUS BY THE INTRANASAL ROUTE.—Good (*Jour. Amer. Med. Assn.*, Aug. 31, 1907).—In the author's operation on the frontal sinus by the intranasal route, he

begins by anesthetizing the entire olfactory region, the bulla ethmoidalis and unciform plate, by means of a cotton swab moistened with 1-1000 adrenalin, then dipped into cocaine crystals which are rubbed into the mucous membrane. The middle turbinate is then removed by the ordinary method and the processus uncinatus removed with a chisel. He next injects into the frontal sinus a half drachm of 10 per cent cocaine in 1-1000 adrenalin, placing a cotton pledget over the infundibulum to take up the cocaine as it returns.

A protector is now inserted into the sinus and a part of the processus frontalis of the superior maxillary bone, as well as a part of the spina frontalis of the frontal bone and the anterior medial wall of the labyrinth ethmoidalis, are chiseled through and removed with forceps or curette. The anterior ethmoidal cells are removed with a curette; a frontal sinus rasp is introduced and the spina frontalis is rasped out, as well as the frontal accessory ethmoidal cells, if present. The sinus is then curetted with flexible curettes and diseased membrane removed, after which it is packed with sterile gauze soaked in carbolized petrolatum and oil of cloves. In twenty-four hours the packing is removed and the patient is left alone.

The author states that in this operation there is absolutely no danger to the intra-cranial structures, and the most that could happen would be to rasp through the orbital wall; but this can be avoided by an assistant putting his finger into the orbit.

THE RELATION OF THE DENTAL ARCHES TO PATHOLOGIC AFFECTIONS OF THE NASO-PHARYNX AND ADJACENT PARTS.—Bogue (*Jour. Amer. Med. Assn.*, July 13, 1907).—The author says that the intimate relation between conditions in the naso-pharynx and the arrangement and development of human dental arches, has just begun to be understood. He has found by clinical experience that when irregular teeth and narrow dental arches are found with the characteristic adenoid physiognomy, we expect in nearly all cases to find not only nasal stenosis, but that the irregularity of the teeth is in proportion to the degree of deflection in the nasal septum and diminution in the nasal passages. He says that the tongue within, and the cheeks and lips without, are the main instrumentalities in the formation of the dental arches, and that in mouth-breathers the tongue, which is a powerful muscular organ, is withdrawn from the roof of the mouth, thereby permitting not only a narrowing of the arch, but causing the eruptive forces of the teeth to be expanded in an antero-posterior direction. From the beginning of mouth-breathing, lateral growth is almost excluded till relief is afforded by surgical means, directed toward the removal of adenoids and enlarged tonsils, and the application of an expansion arch to the teeth.

The author says in conclusion, that if these corrections are instituted at an early age, about sixth or seventh year, the tendency is towards a normal enlargement and development, not only of the upper jaw and nasal passages, but of the bones lying above, thus insuring greater regularity in size and position of antrum and other sinuses, and that if the deciduous teeth are moved into their proper positions, crypts of the permanent teeth will necessarily be carried into proper position.

MEDICAL LAW AND MEDICAL JURISPRUDENCE.

IN CHARGE OF
IRVIN V. BARTH, LL. B.

MANDAMUS TO COMPEL EXAMINATION UNDER MISSOURI DENTAL ACT.—State ex rel. Crandall vs. McIntosh, et al., Board of Dental Examiners, (*Supreme Court of Missouri*, July, 1907), 103 S. W. 1078.

This was an original proceeding by mandamus by the State on relation of U. G. Crandall vs. R. D. McIntosh, et al., composing the Missouri State Board of Dental Examiners. The writ was directed against the members of the Board to compel them to allow the relator to stand the test of an examination as to his qualifications to practice dentistry in the State of Missouri under and by virtue of the Dental Law of 1905. That law required an applicant for examination to have had either a license from the Dental Board of another state or "a diploma from the faculty of some reputable dental college duly organized under the laws of this or any other state of the United States." The relator had neither qualification to require the examination so far as the terms of the Dental Law are concerned. This appears further from his petition to the Board, as follows:

"The undersigned respectfully represents to your honorable body that he is of good moral character and possesses sufficient knowledge, experience and practice to successfully pass an examination to authorize your honorable body to issue to him a license to practice dentistry in the State of Missouri, and, in addition to possessing the necessary knowledge to pass an examination that would entitle him to a license, applicant has had many years experience in the practice of dentistry. Your petitioner states that he has no diploma from a college, that he has not been licensed to practice dentistry in the State of Missouri at any time, and that he has not been licensed in any other state in the United States for the practice of dentistry. Your petitioner therefore respectfully prays the Board to make an examination as to his qualifications and knowledge of dentistry, so that a license may be issued, entitling your petitioner to practice dentistry in the State of Missouri."

The application was denied by the Board and the mandamus proceedings were accordingly instituted. The relator grounded his relief upon the unconstitutionality of the Dental Law in several respects, as in his petition indicated. The court denied the writ and in the course of its opinion passed upon the following questions:

First: The relator being a citizen of Missouri could not claim that the act was unconstitutional because it discriminated against citizens of other states. "Courts do not go out of their way to declare a statute unconstitutional."

Second: Since relator bases his right upon the unconstitutionality of the Dental Law, he cannot in the same breath urge its constitutionality in his attempt to require the Dental Board, under the act of 1905, by mandamus to give to him an examination.

Third: Mandamus should not issue where the right to relief is not clear.

Fourth: Relator is barred by laches from relief by mandamus.

Fifth: The Dental Act of 1905 is constitutional in its requirements.

NOTE. The principal case becomes of importance to the medical profession generally in view of the amendment to the medical practice act, passed at the last session of the Missouri Legislature, raising the requirements for the practice of medicine and surgery in this State. The medical amendment of 1907 is practically on-all-fours with the requirements as embraced in the Dental Law of 1905, under which the above mandamus proceedings were brought. The amended medical law now provides in part as follows:

"All persons appearing for examination shall make application in writing to the Secretary of said Board thirty days before the meeting. They shall furnish satisfactory evidence of their preliminary qualifications, towit: a certificate of graduation from an accredited high school or state normal school, college, university or academy, a certificate from the county school commissioner certifying that they have satisfactorily passed an examination equivalent to a grade from an accredited high school, or state normal school, college, university or academy. They shall also furnish satisfactory evidence of having received diploma from some reputable medical college of four years' requirements at the time of graduation," etc.

It is unfortunate that the principal case does not present a direct decision on the constitutionality of the Dental Law. What the court has to say in regard to its constitutionality is *obiter dictum*. As representing, however, the view of Judge Lamm, at least, who wrote the opinion, this dictum is of interest. The learned judge says:

"While not necessary to a decision of the case, it is not entirely amiss to say that relator's counsel with impassioned eloquence assail that provision of the act of 1905 requiring an applicant for examination to have a diploma from the faculty of some reputable dental college, etc. The argument proceeds on the assumption that knowledge is the main thing, and that the State has no business with the mere method of acquiring that knowledge. It may be conceded that knowledge in the science of dental surgery is the main thing—the capital desideratum; but the argument blinks a major fact, viz., that the State is vitally interested in another thing, towit, that its governmental agency, having in charge the subject matter, towit, the Board of Dental Examiners, should themselves have knowledge of that knowledge. The plan adopted by the statute for attaining that sensible end was that, in the first place, the applicant should have a diploma, or a certificate from the dental board of another state; and, in the second place, should stand an examination. * * * * A certificate from the faculty of a college attesting that its bearer as a student, day in and day out, with scholarly patience and research, had equipped himself with the technical knowledge taught in such college as contemplated by the foregoing statute, is of pronounced significance. It comes from the hands of honorable and competent men; it pledges the honor of the college that its holder attended lectures, possessed himself of the learning of his text-books, passed his term and final examinations with credit under the eye of his preceptors, and was capable of rendering professional services to the people in accordance with the rules of his art; that he was, in

the language of *State ex rel. v. Gregory, supra*, no pretender, no 'empiric, mountebank, charlatan, or quack.' It is manifest that no practicable examination by a dental board could go quite so deep or be so searchingly broad in meaning as an honest, well-earned diploma of that sort. The law places its benediction on such a diploma, assigning it no trifling office, and public sentiment tends to support that theory. The law says it may be received in evidence by the Board as standing for all it is worth; and then the Board, by way of check and as a cap-sheaf on the statutory scheme, may examine the applicant to see whether the seeds of information sown in his mind as a student fell by the wayside, or fell on stony ground or had been lost by forgetfulness as the seeds in the parable were devoured by the birds of the air. We find no legal fault with the requirement of a diploma. We find no legal fault with the requirement of an examination by the Board. We find no legal fault with the legislative theory that it was largely impracticable for an applicant to acquire in the first instance suitable skill in technique and adequate professional knowledge by himself or in an office. The line has to be drawn somewhere, and, so long as it was not chalked out whimsically and arbitrarily at an unreasonable place, it was well enough—the legislature having plenary power."

Judge Burgess concurred with Lamm, J., in his opinion. Chief Justice Gantt and Judges Fox and Graves concurred in the result and offered no opinion upon the constitutionality of the act, as above set forth. Judge Valliant dissented from the remarks of Judge Lamm upon the constitutionality of the act, and Judge Woodson did not sit. It is clear, therefore, that the case does not afford anything more than an opportunity for speculating upon the judgment of the court in the event that this amendment to the Medical Practice Act comes before that tribunal. Indeed, with deference to the learned judge, who gave the opinion, it is inconceivable why the constitutionality of the act should have been passed upon at all. The case could have been decided entirely upon the proposition that relator was assuming an inconsistent attitude in striking at the constitutionality of the act, when to justify his prayer for mandamus he must at the same time allege that the act is constitutional.

CORRESPONDENCE.

LONDON LETTER.

[FROM OUR OWN CORRESPONDENT.]

The session of Parliament lately concluded, enacted some measures which present certain features of interest to the medical profession. In future all children attending the public elementary schools will be submitted to regular medical inspection. This should have a notable effect in checking the spread of infectious diseases of all sorts, and will insure that defects of sight, teeth and of other important organs, shall be pointed out so that they may receive appropriate treatment. Logically, such a course of procedure should be the rule in every school, as was fully demonstrated the other day at the International Congress on School Hygiene. Logical developments, though meeting with general approval as abstract propositions, are not much in favor in the concrete, and take some time to eventuate. In time, no doubt, the matter of school inspection will become a special branch like public health. There are obvious difficulties, in point of fact positive disadvantages, in combining the position of a medical inspector with that of a general practitioner.

Another bill deals with the much-vexed question of vaccination, and an eminently reasonable conclusion has been reached, which bids fair to end the greater part of the controversy on the subject. The "conscientious objector" can now make a statutory declaration of his conscientious objection to the vaccination of his child before a magistrate, instead of applying to the magistrate in open court for a certificate of exemption. This very effectually deprives the strenuous anti-vaccinator of any chance of obtaining notoriety, on which unwholesome diet the movement had to a large extent been nurtured, and with this disappears all excuse for posing as a martyr. The previous act by repealing the penalties which formerly attached to refusal, had already removed most of the excuse with the result that vaccinations actually increased. The only compulsion now remaining, the declaration of objection, involves the quiet and unostentatious expenditure of a little trouble. Under these circumstances it is extremely probable that the anti-vaccination movement will, in the course of a year or two, succumb to sheer inanition.

In passing a bill to insure the early notification of births, the present state of affairs in this respect in this country being in urgent need of reform, a most unfair advantage had been taken by the legislature of the readiness invariably displayed by the medical profession in furthering humanitarian effort, even at the cost of their own interests. Such a position, it may be remarked, is never to any noticeable extent associated with either the clerical or the legal profession. Not content with imposing upon the medical attendant the duty, without fee,

of notifying the fact of a birth, the neglect so to do has been made punishable by summons to a police-court and imposition of a fine. An attempt has been made to gild the pill by enacting that the registration authorities shall provide stamped and addressed post-cards free. The bill was introduced by a barrister, Lord Robert Cecil, son to the late Marquis of Salisbury, and although, so far as the penal clauses were concerned, it was opposed vehemently by the mere handful of medical men having seats in the House of Commons, this opposition was jockeyed out of the running with great "slimness." Had the position been reversed upon some matter which trenched, even in the slightest degree, upon the sacred interests of the legal profession, one can easily imagine the torrents of invective which would have been forthcoming from Lord Robert and the other members of his profession, who may be said to teem in one House and overflow into the other. As it is, credit has been obtained for an act of philanthropy which, however, being at other people's expense cheap and certainly bears the hall-mark usual to such commodities.

Centenarians are by no means uncommonly met with nowadays, but a centenarian physician, especially one who has borne the heat and burden of the day in work in London, is certainly *rara avis*. Sir Henry Pitman has just entered upon his hundredth year, and received numerous congratulations. He was for many years a well known figure in London medical life, as he was Registrar of the Royal College of Physicians of London until 1889, when he became Emeritus Registrar. He was physician to St. George's Hospital, and lectured there on the principles and practice of medicine. He still remains on the staff of the hospital, being the Senior Consulting Physician. He is a most interesting link with the past, for he took his B. A. at Cambridge as long ago as 1831, and had proceeded to his doctor's degree before our present King was born. Junior in years to Sir Henry, is another "Grand Old Man" in medicine, Sir Samuel Wilks, who left London for the breezy heights of Hapstead when he put off the robes of President of the College of Physicians, the highest and most honorable office attainable by a physician in this country. In his well earned leisure Sir Samuel continues to take the keenest interest in everything connected with the profession he so greatly adorned, physically as well as intellectually and scientifically. It is the pride and glory of the Pupil's Physical Society at Guy's Hospital, one of the oldest medical societies in London, that he is still their President and almost invariably takes the chair at the opening and closing meetings of each annual session. His speeches on these occasions are always intellectual treats, and although he deprecates his continuance in office, claiming his only right to remain there is the fact that he is still a student and anxious to learn more, his presidentship affords him infinite and abiding pleasure by maintaining his active connection with the Hospital and School he loves so well, in which and for which he accomplished such great and lasting renown.

October sees the Medical Schools in London getting into the full swing of the work of the winter session. As it is the beginning of the academical year, the "new entries" make their bow on the threshold

of the arena in which the struggle for existence ever grows more keen. The opening of a new year is celebrated by a function of one sort or another at most of the schools. The foretime introductory lecture has in several instances been replaced by a "Past and Present" dinner. Here meet together upon the common ground of unwavering affection for their Alma Mater; the eminent consultant, the rising specialist, the general practitioner and the service man, comparing notes from all quarters of the world. At all such gatherings reminiscences are naturally much in evidence, and in listening to these the "Present" may begin to realize that learned professors, of whom perhaps they stand not a little in awe, were and are "very much like other fellows."

September 21st.

PARIS LETTER.

(FROM OUR OWN CORRESPONDENT.)

LATEST ASPECTS OF HYSTERIA.

Medical doctrines are subservient to the laws of evolution and even those doctrines which one believes to be firmly established are subject to evolutionary changes. This is illustrated in Charcot's case, for although following his studies in hysteria, the teachings of the Salpêtrière school became a dogma, the Charcot conception of the malady is no longer accepted. For the ancient uterine theory, Lepois, Willis and Sydenham, to mention only the most illustrious authors, substituted the theory of a cerebral, or general derangement, with nervous crises and a multiple symptomatology accompanying each crisis. Amplifying this point of view, Charcot and his pupils described a new syndrome and made hysteria a morbid, proteiform entity, capable of simulating all symptoms as well as all maladies.

But, ere long, the beautiful edifice erected by Charcot showed signs of crumbling away. There can be no doubt that the clinical facts observed lost none of their original value, but the Charcot idea of hysteria could not hold its own against the onslaught of discussion. "The malady hysteria," said Professor Bernheim of Nancy, "as described by Charcot, does not exist." By attributing to a pretended malady called hysteria, innumerable and diverse inco-ordinating symptoms which might possibly accompany hysterical crises, by gravitating all these symptoms around a crisis, by amalgamating with hysteria all sorts of maladies, nervous, organic, toxic, psychic, a very diverse syndrome the same in subjects without crises as well as in subjects with crises, was described. Truly, the protagonist of the Nancy school was not far from wrong when he said that here was a morbid, monstrous artificial entity, created from many sources.

How then does Bernheim explain the disease and how are the crises which constitute it developed? In both men and women, a strong emotion (terror, anger, chagrin, grief, etc.) manifests itself by variable symptoms as regards form, duration and intensity; in some, there is an epigastric constriction with sensation of globus hystericus, thoracic distress, tonic or clonic convulsions; in others, there is a loss of consciousness with contraction of the limbs, trismus, etc. These

symptoms, coming on suddenly, and seemingly an attack, are only the exaggeration of psycho-dynamic disturbances which we all manifest more or less in consequence of certain emotions. They are, in reality, indications of crises which never come to a head. If the emotion of reaction under certain influences (organic predisposition, moral depression, menstruation) attain the proportion of a crisis, reproduction is impossible and the occurrence must be looked upon as a mere accident. In other cases, the crisis is not limited to one attack; it recurs each time an analogous emotion is present, or even as a result of auto-suggestion brought on by an emotional remembrance of a crisis. This aptitude of the organism to realize a crisis constitutes a true hysterical diathesis. The hysterical aptitude is, moreover, not in proportion to the nervousness of the subject. Therefore, to have an hysterical crisis it is not necessary to be hysterical. The subjects in which the hysterical diathesis is developed may be in good condition in the intervals, have no stigmata, no untoward manifestations. But, on the other hand, they do present at times certain nervous perturbations.

Taking the above facts into consideration, the single crisis or the diathesis is due to an emotivity produced by external causes while the hysterogenic emotion is due to organic causes; if the latter obtains, the crisis is then associated with a disease. One would be in the wrong always to class, as M. Bernheim does, under the name of hysteria, not only all the functional troubles due to an emotion which has provoked them at the time of a crises, but also the symptomatology of different diseases upon which hysteria has grafted itself. If this were done, hysteria would become a polymorphic malady which could simulate all diseases.

As to the stigmata, such as the contraction of the visual field, the sensitivo-sensorial hemi-anesthesia, M. Bernheim declares they have no spontaneous existence and that they are created artificially by suggestion whilst the physician is making medical investigations. Thus we see that hysteria is nothing more than a crisis; the first crisis being emotional and the crises which follow having their origin in auto-suggestion. One may ask why the first crisis does not come on unexpectedly as do the crises which are prompted by auto-suggestion. This thought suggests to the student that M. Bernheim's conception of the disease is not entirely satisfactory, despite the authority and learning of that scientific investigator.

One of Charcot's most distinguished disciples, M. Babinski, has given us a much more comprehensive definition of hysteria, one which, strange to say, is diametrically opposed to the teachings of M. Bernheim. According to M. Babinski, hysteria is independent of auto-suggestion, the hysterical manifestations being characterized by the possibility of reproducing themselves with a vigorous exactitude and then disappearing under the influence of persuasion. In other words, to use the neologism created by M. Babinski, we have here the "phenomenes pithiatiques." M. Babinski admits the part played by suggestion in the artificial creation of stigmata, and in this respect his teachings are similar to those of M. Bernheim. In connection with the "troubles pithiatiques," what place should we reserve for phenomena that suggestion cannot create (oedema, hemorrhages, fever)? M. Babinski states that between these two classes

of facts there is the relation of cause and effect. He also asserts that the term hysteria should be used only in describing "troubles pithiatiques." As regards the nature of the malady he is of the opinion that suggestion, auto-suggestion and sub-conscious simulation best explain the hysterical phenomena.

What conclusion ought we to draw from these facts? It can readily be seen that if one is not prepared to give a satisfactory definition of hysteria, the reason for this is that as yet a complete unanimity as regards the exact limits of this disease, the extent of the manifestations which have been imputed to it, is lacking. As to the exact nature of hysteria, the best one can say today is that it is purely hypothetical. But this should not affect our interest in the opposite currents of thought at present advocated by two conscientious and authoritative observers in their desire to get at a true conception of the much-discussed disease—hysteria.

September, 19th.

OBITER DICTA FROM FOREIGN JOURNALS.

HYSTERIA AND EVOLUTION.

Imprimis, it is well to remember that at present there is a tendency to withhold from hysteria, the designation of a morbid entity. Instead, it is defined as a modality of psychic changes which are included in the term, psychoneurosis. This tendency, says Schnyder in *Le Bulletin Medical*, is evidenced in Babinski's definition in Crocq's, which runs as follows: "Hysteria is a psychopathological state characterized by hyper-impressionability, diminution of cerebral control and hyper-suggestibility;" and in the ideas of Professor Dubois. In those instances where writers regard hysteria still as a special disease, there seems to be a desire to attribute to it an anatomical substratum, a particular cerebral localization.

To generalize, one may say that the hysterical modification of the mentality has its point of departure in a faulty judgment which leads to erroneous conceptions of real situations, and a lack of adaptation to them. Hysteria is above all else, a disease peculiar to the evolution of the human mind; it illustrates a break in the mental development. This sort of hysteria is as common among young individuals as among children but it is rarely encountered among the aged, because their mentality has gone through all the processes of evolution. In spite of certain analogies, one should not class the mentality of the aged with that of the child, because the latter has imaginative powers and desires unknown to the former. Likewise, it would be easy to demonstrate that

hysteria is co-eval with the evolutionary phases in the history of humanity. It appears in history each time the aspirations of the human mind are limited and repressed by stringent laws and established order, during the periods which precede great moral, social and political revolutions. The best example of this is furnished us in the Middle Ages, which was the classic epoch of hysteria among the masses. This period in the infancy of individualism, according to an expression of Hellpach's, was opposed by the church and other conservative forces which united themselves into a formidable whole to crush humanity's efforts in its desire to achieve progress. Puissant manifestations of hysteria are never the attribute of a people having a too-refined civilization. This is Moebius' opinion. Hysteria is no more characteristic of a decadent people than of the individual whose decadence is the result of great age. It is a manifestation among individuals in whom the mentality represents a primitive period in the mental evolution of the species, such as we find among children.

Certain classes of individuals illustrate a mentality, which for the development of hysteria, is excellent ground for culture. These individuals are to be found either in the rural districts or among the proletariate classes. Among the rural population are to be encountered the simon-pure hysterics; from time to time, even, in some secluded village, an epidemic of hysteria recalls the classic features which obtained in the Middle Ages. Hysteria is the morbid psychic modification in certain individuals whose mentality is simple and naive, and who have been transported to conditions of existence for which they lack adaptability. The quota of country girls who develop hysteria after becoming servants in large towns, is recognized by many authorities. It is not extravagant to remark that the emigration from the country to the city, necessitating as it always does, efforts on the part of the individual to adapt himself to new conditions, constitutes an important factor in the development of the hysteria of today. Hellpach states that the hysteria of the proletariat is the result of socialistic aspirations, and is so widespread that a comparison of it with the hysteria affecting the masses of the Middle Ages, is both apt and proper.

The dissatisfied and the disenchanted who are still hosts to the simplicity of the psychic reactions of the child, have but one way of declaring their inability to cope with the exigencies of life—that is, by developing hysteria.

BOOK REVIEWS.

CHIRURGIE DES PRAKTISCHEN ARZTES. Herausgegeben von Professor Ebstein in Goettingen und Professor Schwalbe in Berlin. In zwei Baenden. Preis: 20 Mark. Verlag von Ferdinand Enke in Stuttgart.

This work represents a supplement volume to the "Handbuch der praktischen Medizin," edited by the same writers. In this "Handbuch" the leading thought in presenting the material was to furnish the active practitioner with a book of reference in which he could easily find the sought for information for immediate application in the special case. In applying this same idea to a text-book of surgery the editors had to discard the customary form of such books and have arranged the material according to organs. Thus the volume begins with an article by Fraenkel on the surgery of the head and vertebral column. Tilmann devotes sixty pages to the surgery of the nervous system. Hess of the University of Wuerzburg, contributes the article on diseases of the eye, Kuemmel on diseases of the ear. There are essays on the surgery of the face, nose, mouth, etc., by Leser, and a brief expose of the diseases of the teeth by Scheff of Vienna. We find among the contributors to this interesting volume Ledderhose, Garre, Mueller, Kuemmell of Hamburg, with an article on the surgery of the male genital organs, and also Kroenig of Berlin, who deals with the surgery of the vascular system.

The volume is well illustrated and must be regarded a most important and interesting addition to our surgical literature.

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